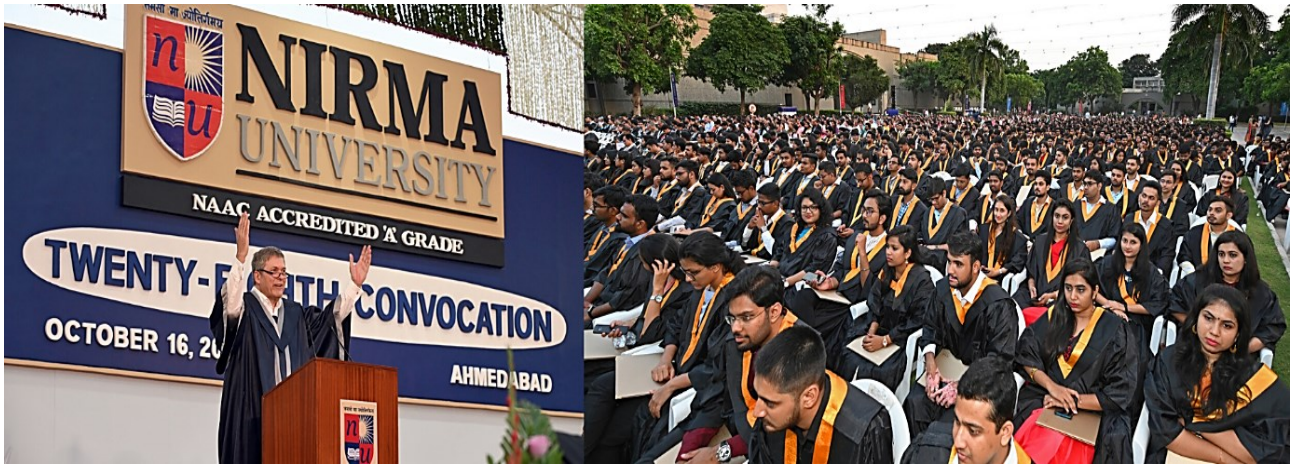
NIRMA UNIVERSITY

NAAC ACCREDITED 'A' GRADE



Strategic Plan (2020-2025)

Nirma University

Ahmedabad, Gujarat

INDIA

July 2020

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List of Abbreviations

ACPC	Admission Committee for Professional Courses
ADR	Alternate Dispute Resolution
ADS	Architectural Design Studio
AI	Artificial Intelligence
AICTE	All India Council for Technical Education
AIMA	All India Management Association
AR/VR	Augmented Reality/Virtual Reality
BFSI	Banking, Financial services and Insurance
BHU	Banaras Hindu University
CA	Chartered Accountant
CAETS	International Council of Academies of Engineering and Technological Sciences
CAPSL	Centre for Academic Practices and Student Learning
CBCS	Choice-Based Credit System
CCMB	Centre for Cellular and Molecular Biology
CDRI	Central Drug Research Institute
CFA	Chartered Financial Analyst
CII	Confederation of Indian Industry
CIIE	Centre for Innovation, Incubation and Entrepreneurship
CIMA	Chartered Institute of Management Accountants
CMA	Chartered Management Accountant
CoA	Council of Architecture, New Delhi
COVID-19	Coronavirus Disease
CQAAD	Centre for Quality Assurance and Academic Development
CS	Company Secretary
CSIR	Council of Scientific & Industrial Research
DBT	Department of Biotechnology
DBT-BUILDER	DBT-Boost to University Interdisciplinary Life Science Departments for Education and Research Programme
DRI	Directorate of Research and Innovation
DST	Department of Science & Technology
FDP	Faculty Development Programme
FICCI	Federation of Indian Chambers of Commerce and Industry
FIST	Fund for Improvement of S&T Infrastructure in Universities and Higher Educational Institutions
FMS	Faculty of Management Studies
FSR	Faculty-Student Ratio
GA	Graduate Attributes
GBRC	Gujarat Biotechnology Research Centre

GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GIFT	Gujarat International Finance Tec-City
GoG	Government of Gujarat
GoI	Government of India
GSIRF	Gujarat State Institutional Ranking Framework
GUJCOST	Gujarat Council on Science & Technology
HEI	Higher Education Institution
HMI	Human Machine Interface
IAPNU	Institute of Architecture and Planning, Nirma University
ICFAI	Institute of Chartered Financial Analysts of India
ICNU	Institute of Commerce, Nirma University
ICT	Information and Communication Technology
IHASS	Institute of Humanities, Arts and Social Sciences
IIFT	Indian Institute of Foreign Trade
IIM	Indian Institute of Management
IIoT	Industrial Internet of Things
IISc	Indian Institute of Science
IISERs	Indian Institutes of Science Education and Research
IIT	Indian Institute of Technology
ILI	Indian Law Institute, Delhi
ILNU	Institute of Law, Nirma University
IMI	International Management Institute
IMNU	Institute of Management, Nirma University
IMT	Institute of Management Technology
IoE	Institutions of Eminence
IoT	Internet of Things
IPNU	Institute of Pharmacy, Nirma University
IPR	Intellectual Property Right
IQAC	Internal Quality Assurance Cell
ISNU	Institute of Science, Nirma University
ISTD	Indian Society for Training and Development
ITES	Information Technology Enabled Services
ITNU	Institute of Technology, Nirma University
ITPI	Institute of Town Planners, India
JNU	Jawaharlal Nehru University
JRF	Junior Research Fellowship
MHRD	Ministry of Human Resource Development
MoE	Ministry of Education
MOOC	Massive Open Online Course

MoU	Memorandum of Understanding
NAAC	National Assessment and Accreditation Council
NASA	National Association of Students of Architecture
NASSCOM	National Association of Software and Services Companies
NGO	Non-Government Organization
NII	National Institute of Immunology
NIRF	National Institute Ranking Framework
NISER	National Institute of Science Education and Research
NISM	National Institute of Securities Markets
NIT	National Institute of Technology
NITIE	National Institute of Industrial Engineering
NKC	National Knowledge Commission
NKFH	National Knowledge Function Hub
NLP	National Litigation Policy
NMIMS	Narsee Monjee Institute of Management Studies
NOSPLAN	National Organization of Students of Planning
NRI	Non-Resident Indian
OBE	Outcome-based Education
PBL	Project Based Learning
PEO	Program Educational Objectives
PG	Post-Graduate
PLC	Programmable Logic Controller
PLO	Program Learning Objectives
RAC	Research Advisory Committee
R&D	Research and Development
RSP	Related Study Programme
SCADA	Supervisory Control and Data Acquisition
SDGs	Sustainable Development Goals
SEBI	Securities and Exchange Board of India
SEZ	Special Economic Zone
SoE	School of Engineering
SoT	School of Technology
SPJIMR	SP Jain Institute of Management and Research
STEM	Science, Technology, Engineering and Management
STTP	Short Term Training Program
TAPMI	T.A. Pai Management Institute
THSTI	Translational Health Science and Technology Institute
UG	Undergraduate
UGC	University Grants Commission
UN	United Nations

FOREWORD

The Nirma University has systematically emerged in last one and a half decade as a hub of quality education through its teaching-learning processes, competent faculty members, state-of-the-art infrastructure and committed efforts on research & innovation, having a tangible impact on societal development. During these years, the University has become a synonym for 'Quality Education'. The journey has been quite challenging yet very successful. Meanwhile, the University has developed and successfully implemented its first Strategic Plan for the duration of 2014-19. The majority of the goals envisioned in the first plan are achieved and then it was decided to develop a new Plan.

I am very happy to put forward this second Strategic Plan of the Nirma University for the period of 2020-25. It precisely articulates our aspirations to emerge as the highly respected multidisciplinary and student centric University. Under the umbrella of the University's plan, this Strategic Plan also outlines overarching priorities of all the constituent Institute of the University for the coming five years.

At this juncture, I wholeheartedly thank the Director General, Executive Registrar, all the Heads of the Institutes, faculty members and staff members for their untiring efforts in preparing this plan. The thanks are due to the members of the DRI, CQAAD, IQAC, the University Level Committee for their guidance and suggestions.

I believe, with the support and dedicated efforts of all the stakeholders, in the next five years the University will achieve a greater level of excellence and distinction in the higher education arena at national and global level.

K. K. Patel
Vice President
Nirma University

July 03, 2020
Ahmedabad

EXECUTIVE SUMMARY

Nirma University has developed a Five-Year Strategic Plan for the period of 2020-25. The strategic plan of the university forms an umbrella under which the goals of development of all the constituent institutes and centres are imbibed under integrated themes. Also, each of the constituent institutes of the university has developed a detailed strategic plan, falling in line with the strategic plan of the university. It is believed that the collective efforts of all the stakeholders will lead towards the achievement of goals of the strategic plan of the university.

Several brainstorming sessions were arranged with all the Heads of Institutes (HoIs) and systematic analysis was done for the external and internal environment of the university. Environmental analysis was done for the international scenario, national scenario, state scenario, and educational scenario. A thorough analysis was done for the university on strengths, weaknesses, opportunities, and challenges (SWOC). It was kept in mind that the university has to cater to the need of the day and also to produce the manpower for the future challenges. The challenges of training the 'Generation Z' for 'Industry 4.0' through 'Education 4.0' were also assessed. In the present times of outbreak of COVID-19 pandemic, the need of rugged Information and Communication Technology (ICT) backbone of the university has assiduously emerged. So, the tasks of addressing the students' needs through on-line learning resources and video lectures, conducting on-line examinations, facilitating faculty members with the infrastructure of on-line assessment of semester-end exams, arranging the meetings and conferences on-line will be attended to. The universities and its constituent institutes are going to face a big challenge in the near future in finding more avenues of placement of graduating students due to the COVID-19 pandemic affecting slow-down in the economy at the national and global level. The pedagogical practices are to be designed in such a way that self-learning skills are inculcated among the students so that they become lifelong learner, who can effectively face the challenges of unpredictable future.

It has become inevitable for the university to participate in national and international rankings. The university has to prepare for competing in governmental ranking frameworks, such as Gujarat State Institutional Ranking Framework (GSIRF) by the Government of Gujarat (GoG) and National Institutional Ranking Framework (NIRF) by Ministry of Human Resource Development (MHRD) [now, Ministry of Education (MoE)], the Government of India (GoI). At the same time, the plan is developed to see that the university develops itself for the

requirements of global ranking agencies, such as QS World University Rankings, Times Higher Education World University Rankings, and Academic Ranking of World Universities (also known as Shanghai Ranking). The modern-day demand from the university system is the contribution through cutting-edge research and innovation with tangible societal impact. The world is becoming a global village, hence the internationalisation and collaborations with foreign universities and research organisations are of utmost importance.

In the backdrop of the above stated requirements and conditions, and envisaging the university as possible centre of excellence, the following integrated themes are arrived at around which the entire strategic plan of the University is woven. As the strategic plan demands timely actions, its success is determined by the fulfilment of the targets and outcome achieved. Further, prioritisation amongst these themes is essential in order to see that maximum outcome is achieved by focusing on crucial parameters, following the Pareto Principle (The 80-20 rule.)

- Modern, flexible and interdisciplinary curriculum
- Internationalisation
- Smart campus including ERP with strengthened ICT backbone and video conferencing facilities
- Hostels for undergraduate students
- Central library as modern information resource centre
- Introduction of new programmes
- Ranking and accreditation (national and international)
- Healthy faculty student ratio
- Enhancing employability and entrepreneurship
- Diversity and inclusivity
- Strengthening the culture of research and innovation
- Nurturing start-ups and providing entrepreneurial ecosystem through incubation
- Impacting societal outcomes
- Generating alternate sources of revenue
- University as centre of excellence

The detailed and tangible action plan, goals, milestones, and timelines are decided for the above listed integrated themes. The highlights of the same are given below:

- The University has a plan to establish three new institutes, namely, (i) Institute of Humanities, Arts and Social Sciences (IHASS), (ii) Institute of Education (IE), and (iii) Institute of Communication & Media (ICM).
- During the plan period (2020-25), the university plans to strengthen all ongoing programmes by way of enriching the curriculum, offering a variety of elective courses, modernising the labs for experiential learning, adding high caliber faculty members and promoting the culture of research and innovation.
- In addition to the proposed three new institutes, the University plans to start seven interdisciplinary programmes in various existing institutes, as follows:
    - M.Tech. in Robotics and Automation
    - M.Tech. in Data Science
    - M.Tech. in Transportation and Infrastructure Engineering
    - M.Arch. in Urban Design
    - Masters in Communications
    - M.Com. in Banking & Insurance
    - M.Pharm. in Bioinformatics and Drug Discovery
- The current student strength is approximately 8,500. This will reach 11,000 by the end of the plan.
- There is a plan to recruit competent and qualified faculty members from India as well as foreign nations. The candidates with strong academic background, a doctoral degree from reputed Indian/foreign universities and having a passion to integrate research with teaching shall be the future University faculty. It is expected that by the end of this Five-Year Plan, the university will be able to achieve Faculty-Student Ratio (FSR) of 1:15.
- There is a plan to integrate all the existing institute specific libraries of the university into a central library. The library will function as a resource centre in a true manner, extending its services to industries and other nearby institutions. Physical and digital resources will be strengthened in the central library, along with setting up an ICT governed library administration system.
- Research outcome is one of the significant measures determining the standards of the university. The university and all its constituent institutes have already identified the thrust areas of research. A comprehensive research plan is developed by the university to excel in various research areas. It is envisaged to bring the university in the front-row of Indian universities by producing quality and socially relevant research outcomes by

undertaking socially relevant and industry-defined research problems and producing research publications in quality journals, and generating patents.

- It has been decided to work on the following important aspects of the research and innovation in the plan:
    - To strengthen the infrastructure for research and innovation
    - To deploy intellectually bright faculty for conducting research
    - To fill the position of 'Research Chair Professor' in each discipline of the university
    - To further raise the standards of education in postgraduate and doctoral programmes
    - To aim for more collaborative, interdisciplinary, socially relevant, and industry-sponsored research
    - To increase research outcomes and generate more IPRs
    - To attract more full-time doctoral students by offering a greater number of university scholarships
    - To approve a greater number of positions for Post-Doctoral Fellowships and to fill them appropriately
    - To make budgetary provision for a greater number of minor and major projects funded by the university for all the constituent institutes

- It has been decided to allocate funds for modernisation of identified essential laboratories of various departments of constituent institutes. Further, industry-sponsored laboratories will be set up for enhanced hands-on training of students, experiential learning, research, and consultancy.
- There is a plan to establish the following facilities for facilitating cutting-edge research and supporting innovation by providing developmental ecosystem:
    - Full-fledged development and functioning of Centre for Advanced Instrumentation (CAI)
    - Incubation Centre
    - Technology Transfer Centre
    - Research Centres in highly specialised inter- and multi-disciplinary areas
- To provide intensive training programmes, such as induction training and research orientation to faculty and staff members

- To develop appropriate reward mechanism for faculty and staff members
- In order to promote collaboration with the global universities and the industries, the university has opened the Office of International Relations (OIR). It has launched an IMPACT programme (International Management Programme for an Accelerated Collaborative Traction) to plan and execute the global collaborations. It is hoped that intensive efforts in this direction will result in at least fifteen new active international collaborations during the next five years.
- The university will put substantial efforts to increase its infrastructure to achieve its goals to become a first-rate university. During the plan period, the budget will be earmarked to construct a central building, a girls' hostel, a boys' hostel, and a studio apartment building.
- The university got accredited by NAAC with 'A' grade (highest grade as per the old grading scheme of the NAAC) in 2015. It will apply for its third cycle of accreditation in the year 2020.
- The Institute of Management has already received accreditation from NBA, and the regional accreditation by South Asian Quality Assurance System (SAQS). The institute shall initiate the process of international accreditation for its MBA programme.
- The Institutes of Technology and Pharmacy have already got NBA accreditation for their undergraduate programmes for a period of three years. These institutes will now focus on getting international accreditation for their select programmes.
- The university will deploy a rugged Information and Communication Technology (ICT) backbone system to address the students' needs through on-line learning resources and video lectures, arranging the meetings and conferences on-line. Moodle LMS will further be augmented and streamlined.
- The university will focus on securing first rank in GSIRF and for its position in the top 75 NIRF rankings.
- Making itself compatible with global standards, the university has a plan to apply for QS World University Rankings and Times Higher Education World University Rankings in Asian categories.
- Nirma University and its constituent institutions have a strong culture of alumni relations. The university has also constituted 'Nirma University Alumni Forum', comprising representatives from various institute level Associations, with an objective to involve alumni in strategic and operational functioning of the university. The university, through

its Alumni Forum, has chalked out future plans to effectively involve the alumni in the management of the institutions and to leverage alumni financial resources.

The university is very serious in effectively implementing and monitoring the progress of the Five-Year Strategic Plan. The plan will be implemented and closely monitored by a core team that will meet once in three months and review the progress. Apart from the core team, at the institute level, the Institutional Committee will hold review meetings on a monthly basis and will facilitate the proper implementation of the strategic plan.

Chapter – 1
Strategic Plan of the Nirma University

1.1 About the Nirma University

Dr Karsanbhai K Patel, the internationally renowned entrepreneur and the founder of Nirma Industries, crystallised his long-cherished dream of providing world class facilities for higher education through the Nirma Education and Research Foundation (NERF) in 1994.

Starting the journey, it was decided to start the higher education programmes in engineering and technology. Accordingly, in the year 1995, Nirma Institute of Technology was established to impart high quality education at the undergraduate level in engineering and technology. The institute was the first self-financed private institute in the state of Gujarat. Thereafter, in 1996, the Institute of Management was established, with full academic autonomy given by the AICTE to run a postgraduate diploma programme.

1.1.1 Historical Development of The Nirma University

As a natural consequence of the outstanding performance in their respective areas by these first two institutions, the Government of Gujarat, in 2003, approved the proposal of the NERF to grant the status of a University titled, 'Nirma University of Science and Technology (NUST)' under a special Act passed by the Gujarat State Legislative Assembly. The University Grants Commission (UGC) recognised the Nirma University of Science and Technology under the Section 2(f) of the UGC Act in 2004.

With the view to expand beyond the scope of science and technology in the existing act, the University sent a proposal to the Government of Gujarat to amend the Act in terms of the scope in the year 2007. The proposal of the University was accepted by the Government of Gujarat and the Act was amended in July 2009. The Act amended the name of the University as 'Nirma University' in place of 'Nirma University of Science and Technology". Subsequently, the university approached the UGC for the change of the nomenclature. The UGC approved the proposal vide letter no.9-29/2009(CPP-I/PU) dated December 17, 2014.

1.1.2 Vision, Mission, Values and Quality Statement

While establishing the NERF, the objectives were defined which were subsequently translated into the Motto, Vision, Mission, Quality Statements and the Values of the University as mentioned underneath:

Motto

तमसो मा ज्योतिर्गमय (Tamso Ma Jyotirgamaya) meaning "From ignorance, lead us to truth"

The motto of the university is taken from Brhadaranyaka Upanishad – I.III.28. The second line of the Pavamana Mantra explains how to lead the life towards knowledge from ignorance that obscures our mind in understanding the reality. As the only remedy from darkness is light, the only remedy from ignorance is knowledge.

Vision

Shaping a better future for mankind by developing effective and socially responsible individuals and organisations.

Mission

Nirma University emphasises the all-round development of its students. It aims at producing not only good professionals, but also good and worthy citizens of a great country, aiding in its overall progress and development.

It endeavours to treat every student as an individual, to recognise their potential and to ensure that they receive the best preparation and training for achieving their career ambitions and life goals.

Values

Student Centricity

- Emphasise on holistic development of the students through extra and co-curricular activities
- Pursue student-centred teaching-learning process
- Focus on employability and entrepreneurship
- Nurture lifelong learning skills
- Use of ICT tools and technology

Contribution to the Society

- Recognise and respond to the societal issues
- Align curricula and pedagogy to cater to societal needs and demands
- Conduct applied research to address organisational and societal problems

Quest for academic excellence

- Develop and retain outstanding employees
- Use inter-disciplinary approach in the teaching-learning process and research
- Think creatively and do relevant research
- Establish strong linkages with the industry, academia, research organisations, alumni and civil society

Quality Statement

To develop high quality professionals who reflect and demonstrate values that the University stands for, through innovation and continuous improvement in facilitation of learning, research and extension activities.

Objectives of the University

The objectives of the University are as follows:

- To disseminate, create and preserve knowledge and understanding by teaching, research, training and extension activities by effective demonstration and influence of its corporate life on society in general.
- To create centres of excellence for providing knowledge, education, training and research facilities of high order in the field of science, technical, dental, medical, paramedical, physiotherapy, pharmacy, commerce, management, education, humanities and other related professional education as per its current status and such other manner as may develop in future, including continuing education and distance learning.
- To develop patterns of teaching a Certificate/Diploma, Undergraduate, Postgraduate courses and Doctoral level and to maintain a high standard of education and its applications, to create capabilities for upgrading science and technology, dental, medical, paramedical, physiotherapy, pharmacy, commerce, management, education and humanities.
- To develop training facilities and make arrangements for training in higher education, including professional education and allied fields; to provide for inter-relationships for national and global participation in the field of science and technology, dental, medical, paramedical, physiotherapy, pharmacy, commerce, management, education and humanities and its allied fields.
- To function as learning resource centre.
- To provide for arrangement for national and global participation in the field of higher and professional education including technical education, dental, medical, paramedical, physiotherapy, pharmacy, commerce, management, education and humanities.
- To establish close linkage with the industry to make teaching, research and training at the University relevant to the needs of the economy, at national and global level.

1.1.3 Institutes and Centres under the Nirma University

All the constituent Institutes and Centres under the Nirma University are listed in Table 1.1.

Table 1.1: Constituent Institutes and Centres under the Nirma University

Name of the Institute/Centre	Year of Establishment
Constituent Institutes	
Institute of Technology (IT)	1995
Institute of Management (IM)	1996
Institute of Pharmacy (IP)	2003
Institute of Science (IS)	2004
Institute of Law (IL)	2007
Institute of Architecture & Planning (IAP)	2014
Institute of Commerce (IC)	2016
Department of Design (DoD)	2017
Centres	
Centre for Quality Assurance & Academic Development (CQAAD) [Earlier known as Academic Development & Research (ADR) Cell]	2008
Centre for Continuing Education (CCE)	2012
Centre for Entrepreneurship	2014
Directorate of Research & Innovation (DRI)	2016
Centre for Advanced Instrumentation (CAI)	2019
Centre for Family Business and Entrepreneurship	2019
Centre for Robotics and Automation	2019
Centre for Excellence in Data Science	2020

1.1.4 Accreditations

The university was duly accredited by NAAC for the period of five years, starting from the year 2010. Subsequently, in 2015, the NAAC re-accredited the university with 'A' grade (highest grade as per the old grading scheme of the NAAC) with the CGPA of 3.18.

All the seven undergraduate programmes of Institute of Technology are duly accredited by NBA for three years (four departments accredited in 2019, and three departments accredited in 2020). Likewise, MBA programme of the Institute of Management and undergraduate programme of the Institute of Pharmacy are accredited by the NBA for three years in 2020.

1.1.5 Rankings

In the year 2017, Nirma University participated in the NIRF ranking and was ranked at 75th place overall. It was ranked among the top 100 universities by National Institutional Ranking Framework (NIRF) 2018. Nirma University is awarded with a 4-star status with a CGPA of 3.54 and also awarded a 5-star status on 'Graduate outcomes' by Gujarat State Institutional Rating Framework (GSIRF) 2019. The university has emerged as the best-rated private university in Gujarat. In the 'Outlook-ICARE India University Rankings 2019', Nirma University is featured at fourth position among the top 50 private state universities of India. It ranks as the best private University at the state level, too.

1.2 Why Strategic Plan?

Strategic plan is an important tool for a university to manage itself effectively because it:

- provides a framework for effectiveness and sense of direction
- outlines the goals and measurable targets
- is useful for guiding day-to-day actions
- helps in evaluating progress and changing approaches when moving forward

It is an iterative process at both the stages, i.e., while framing and when implementing as well, as shown in Figure 1.1.

Figure 1.1: Strategic plan cycle

The plan is developed to establish deep roots that provide firm foundation for the constant up-gradation of the university, as well as to energise the drive of experimentation and innovation, keeping the focus on university's vision and mission. The strategic plan sets out a framework of priorities for the university, its constituent institutes and centres.

Figure 1.2: The effective strategic plan process

The first step in the implementation process is the evaluation of the strategic plan. The plan must be reviewed carefully, and any elements of the plan that might be especially challenging must be highlighted, e.g., any part of the plan that might be unrealistic or excessive in cost, either in terms of time or money.

Deployment of teams, with assigned team leaders, is necessary to implement the plan. Monitoring of progress with a close watch on the collective efforts and timelines will lead the team towards the accomplishments. At the same time, fine-tuning may be applied to the strategy, if required.

1.3 Environmental Assessment and Analysis

1.3.1 International Scenario

- Research and innovation characterise prominence of the university
- Internationalisation is preferred by prominent institutions despite of its highly demanding nature
- Most of the Indian educational institutes are not competitive compared to their global peers
- India is the third largest higher educational system next to the United States and China
- Research expenses as %age of GDP: US 2.75%, China 2.19%, India 0.85%

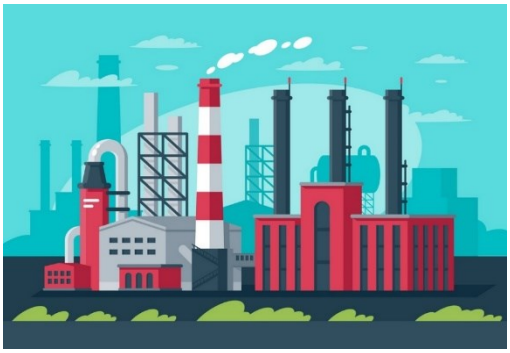
- GER: US 85%, China 43%, India 26% (30 % by 2020-21 as per 12th Five Year Plan)
- India: only 4% colleges run doctoral and 37% colleges run postgraduate programmes
- India is a net exporter of students

1.3.2 National Scenario

- Diminishing investments in higher education by governments
- Regulatory framework (highly controlling)
- Increasing private participation in higher education (349 Private Universities out of a total of 935 Universities in India, i.e., 37.3%) [based on number of total universities in the country published by the UGC as on 01-02-2020: 409 State Universities, 127 Deemed to be Universities, 50 Central Universities, 349 Private Universities]
- Competition among higher education institutions has increased
- Seventy per cent of total enrolment is in private institutions
- Private universities mainly dependent on fees for their operations
- Emerging inclination of government to support both public and private institutions for research
- Success of IIT Model. Yes, India can do it!

1.3.3 State Scenario

- Gujarat: A land of opportunities
- Key Industrial Sectors:
  - Chemicals, pharmaceuticals and health services
  - Machine tools, diamond industry, automotive
  - Ceramic, textile, plastic, cement, soda ash
  - Oil, natural gas, petrochemical refineries, fertilizers
  - Trading, commerce & financial services
  - Ports & coastal line trades (1215 km/5423 km = 23 %)
  - Electricity through renewables (wind, solar energy)
  - Electronics and ITES
  - Entrepreneurship and incubation

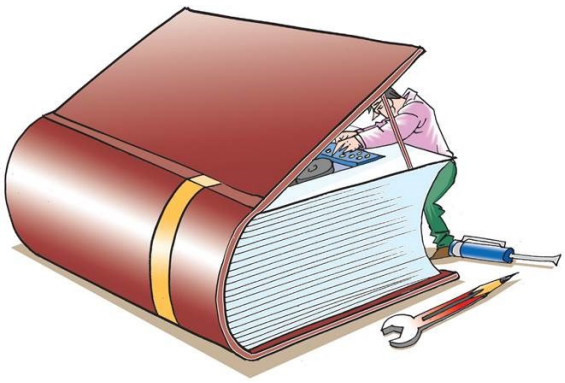


- Fee regulation (a little freedom to decide fees in technical education)
- Diversity of students is restricted
- GDP growth of India 6.5%, Gujarat's GDP growth 12%
- Average growth in employment-intensive sectors (FY13-18): India 7%, while Gujarat 11.5%

- Increasing private participation (private universities 35/69 = 51%)
- Well-defined state policies in the fields of science, technology & innovation, electronics & information technology/information technology enabled services (SITES) start-up, electronics, biotechnology, industrial, manufacturing, electric-vehicle (proposed)

1.3.4 Educational Scenario

- National Education Policy 2020 is announced
- Emphasis on development of integrated personality (importance of arts, culture, people management, etc.)



- New challenges while educating Generation-Z
- Poor faculty availability and competency
- Research culture and resource mobilisation
- Integrating and imbibing UN's 17 SDGs through curriculum
- Catering to the needs of Industry 4.0
- Making student ready for the future (unknown) jobs
- Student centricity: Hands-on Skills, flexibility, and employability
- Interdisciplinary approach: Need new programmes and collaborations

1.4 Competitive Analysis and Benchmarking

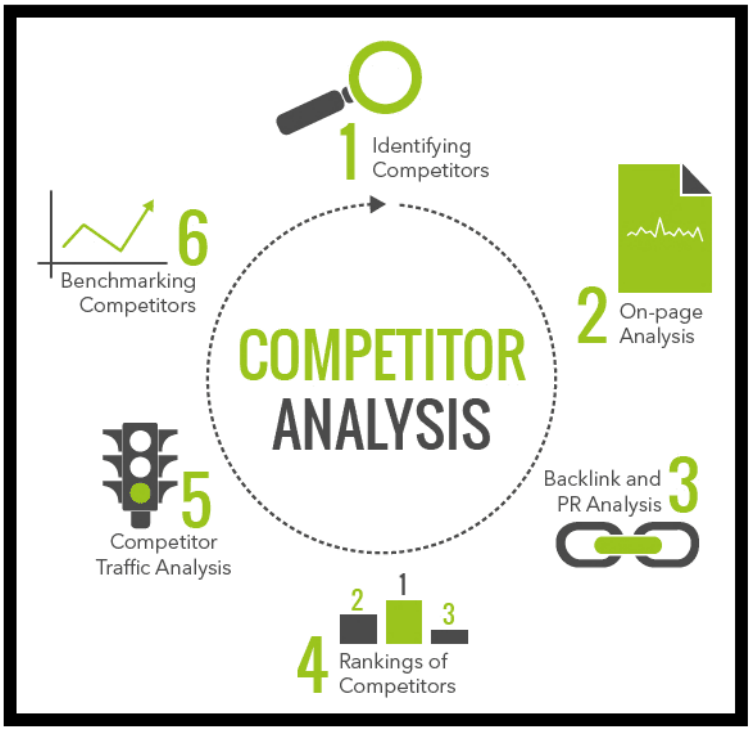
1.4.1 Competitive Analysis

Nirma University is a private state university. It is a multi-disciplinary, comprehensive university. It is an emerging medium-sized institution. Therefore, it cannot be compared with the institutions of national importance and central universities. Its strategic group consists of private, professional unitary universities. Nirma University majorly comprises professional institutes. Therefore, it is not in the league of liberal arts universities. Consequently, the members of its strategic group have institutions like, Manipal University, Thapar University, PDPU, Shiv Nadar University, Amrita University, and GITAM University, etc.

1.4.2 Benchmarking

It is the continuous action of comparing a process, a product or a service with a similar activity, known as being the best in that field, with the purpose of establishing ambitious but real improvement objectives and actions so as to become and keep the number one position among the best within a reasonable period of time.

We did a benchmarking exercise with regards Manipal Academy of Higher Education, BITS Pilani, Amrita University, VIT, SRM, and Thapar University with respect to student strength; faculty-student ratio; research outcome; and rankings. This exercise provided us insights into our strengths and weaknesses.



1.5 SWOC Analysis

The more commonly used practice in strategic planning is to do SWOT analysis. However, for the educational institutions, threat is to be considered as challenge, and hence SWOC analysis stands for: Strengths, Weaknesses, Opportunities and Challenges. It is a simple analysis system designed to check the strategic position of a particular university in its field of operation, and because of its methodological simplicity.

As shown in Figure 1.3, SWOC analysis is divided into two parts: the internal environment where strengths and weaknesses are identified, and the analysis of the external environment, where opportunities and challenges are determined.

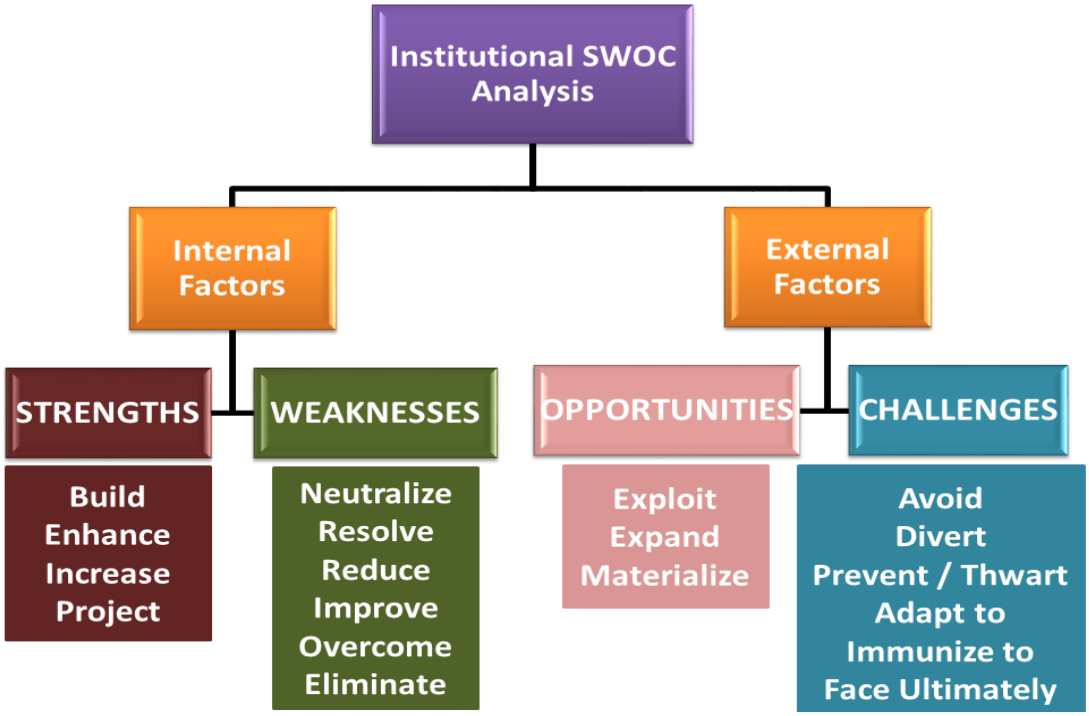


Figure 1.3: Divisions of SWOC analysis

The salient points emerging out of the SWOC analysis of the university are listed below:

1.5.1 Strengths

- Excellent local and regional reputation with well-established national recognition
- Young, dynamic and dedicated faculty members aligned with institutional goals
- Learner centric approach
- Focus on synergy between teaching and all-round development of the students
- Meritorious students with geographical diversity
- Continuous up-gradation of different curricula
- Transparent management policies, with well-defined procedures
- Well-disciplined conducive academic environment
- Active linkages with nearby institutions, industries and research organisations
- Continuous emphasis on faculty and staff development

1.5.2 Weaknesses

- A large proportion of new faculty members with limited experience
- Relatively less exposure to global experience amongst faculty and students
- Less number of specialised laboratories for state-of-the-art research
- Limited sponsored research and consultancy activities
- Fewer number of high impact research publications and patents
- Minuscule interdisciplinary programmes
- Inadequate promotion of sports, wellness, societal and cultural activities

1.5.3 Opportunities

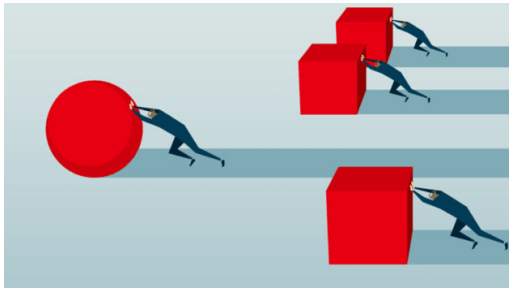
- Increase in the number of educational aspirants
- Global growth in demand of professionals
- Catering to the need of the industry by customised programmes and services to generate alternate sources of revenue
- Encouraging policies of state and central governments for establishing CoE /IoE
- Developing interdisciplinary programmes
- Foreign institutes are looking towards India for academic and research collaborations
- Establishing new as well as strengthening existing national and international linkages
- Recognition of faculty members as fellows of national and international academic and professional societies/bodies

- Strengthening Research and Innovation by mobilising funds through different funding agencies
- Offering consultancy services
- Establishing a global presence through a large pool of alumni in diverse industries and institutions
- Internationalisation of various activities

1.5.4 Challenges

- Training 'Generation Z' for 'Industry 4.0'
- Establishment of educational institutions of repute in the vicinity providing local, regional and global competition
- Attracting and retaining experienced faculty members and developing a wide spectrum of expertise across the disciplines

- To get adequate number of full-time PhD students for enhancing research outcomes.
- To establish Nirma University as a strong provider of consulting and training services
- Rapid changes in all the disciplines and correspondingly changing expectations from industry and society
- Getting more avenues of placement of students in the COVID-19 affected economies at national and global level



1.6 Positioning Analysis

Analysis of the present position of the University is to be done based on various rankings. We intend to emerge as the top ranked university in Gujarat. We strive to emerge among the top five state private universities and among top 10 private universities in India. Further, Nirma University must be ranked among top 75 institutions in the NIRF ranking. Eventually, we will be ranked among top 500 universities in the QS rankings.

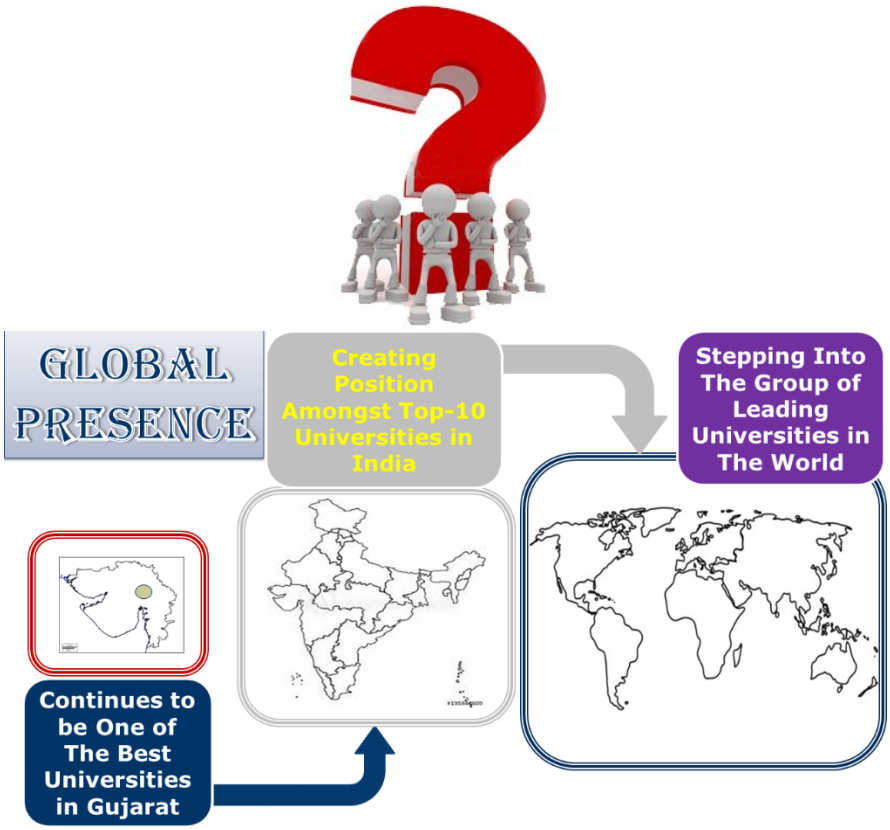


Figure 1.4: An indicative positioning of the University

1.7 Strategic Goals

Keeping in mind the integrated themes developed in the previous section, the following strategic goals are developed by the university:

Goal-1: To become a medium-sized national university

Goal-2: To promote research and innovation in the constituent institutes

Goal-3: To develop faculty to meet emerging academic and employability challenges

Goal-4: To provide high quality infrastructure and facilities to the constituent institutes

1.8 Strategies, Targets and Implementation Plan

Goal-1: To become a medium-sized national university

Strategy-1. To launch new programmes and institutes

Strategy-2. To increase the number of students in different programmes and institutes

Strategy-3. To achieve A++ grade in the third cycle of NAAC accreditation

Strategy-4. To improve ranking in National Institutional Ranking Framework (NIRF), Ministry of HRD, GoI

Table 1.2: Five yearly targets for becoming a medium-sized national University

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
New programmes/institute	2	2/1	2	2/1	2/1
Number of students	8500	9000	9600	10200	10800
NAAC accreditation	To achieve CGPA of 3.5 or above				
NIRF ranking	To be among the top 100 institutions	To be among the top 100 institutions	To be among the top 80 institutions	To be among the top 80 institutions	To be among the top 70 institutions

Goal-2: To promote research and innovation in the constituent institutes

Strategy-1. To increase scholarships for doctoral students

Strategy-2. To establish various centres of excellence in different institutes

Strategy-3. To increase seed money grants for minor research projects

Strategy-4. To increase external research funding

Table 1.3: Five yearly targets for promoting research and innovation in constituent institutes

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Providing scholarships for doctoral students	30	35	40	45	50
Establishing centres of excellence	1	1	1	1	1
Funding for minor research projects	Rs 35/- Lakhs	Rs 40/- Lakhs	Rs 45/- Lakhs	Rs 50/- Lakhs	Rs 55/- Lakhs
Funding for external research projects	Rs 200 Lakhs	Rs 230 Lakhs	Rs 260 Lakhs	Rs 300 Lakhs	Rs 350 Lakhs

Goal-3: To recruit and develop faculty members to meet the emerging academic and employability challenges

Strategy-1. To select faculty with PhD qualifications

Strategy-2. To recruit faculty who have done their post-graduation/doctoral studies from a foreign qualification

Strategy-3. To conduct two-week long training programmes for faculty

Strategy-4. To ensure that most faculty have developmental experience

Table 1.4: Five yearly targets for recruiting and developing faculty members for meeting the emerging academic and employability challenges

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Faculty with PhD qualifications	50%	55%	60%	70%	80%
Faculty with foreign postgraduate/doctoral degree	5%	10%	15%	20%	20%
Two-week long faculty development programmes	8	8	9	9	10
Percentage of faculty with development experience	40%	45%	50%	50%	50%

Goal-4: To provide high quality infrastructure and facilities to the constituent institutes

Strategy-1. To develop the central library

Strategy-2. To modernise different laboratories in various institutes

Strategy-3. To construct a girls' hostel with a capacity of 1100 beds

Strategy-4. To implement requisite ICT infrastructure

Table 1.5: Five yearly targets for enhancing infrastructure and facilities

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Developing central library	---	20%	50%	100%	Fully Functional
Modernising different laboratories	10%	30%	50%	70%	90%
Constructing girls' hostel	---	50%	70%	100%	Fully Occupied
Implementing requisite ICT infrastructure	100% implement-ation of Moodle version 3.1	100% implement-ation of ERP	100% implement-ation of blended learning	100% implement-ation of other requisite software	Continuous renewal of ICT software

Step-by-step implementation:

Strategic plan will be implemented at two levels: the university level and the institute level. The goals set in Chapter 1 shall be implemented at the university level by the top leadership

of the university, i.e., Director General, Vice President, Executive Registrar, Chief Accounts Officer, and Director, Directorate of Research and Innovation. They will mobilise resources – human and financial – to achieve the goals and will be closely involved in the plan implementation.

1.9 Monitoring and Alignment: Structure and Systems

Monitoring of plan implementation will be done at both the university and institute levels. At the university level, the plan will be implemented and closely monitored by a core team (Director General, Vice President and Executive Registrar) that will meet in three months and review the progress. Besides, at the institute level, the Institutional Committee will hold review meetings on a monthly basis and will facilitate the proper implementation of the strategic plan.

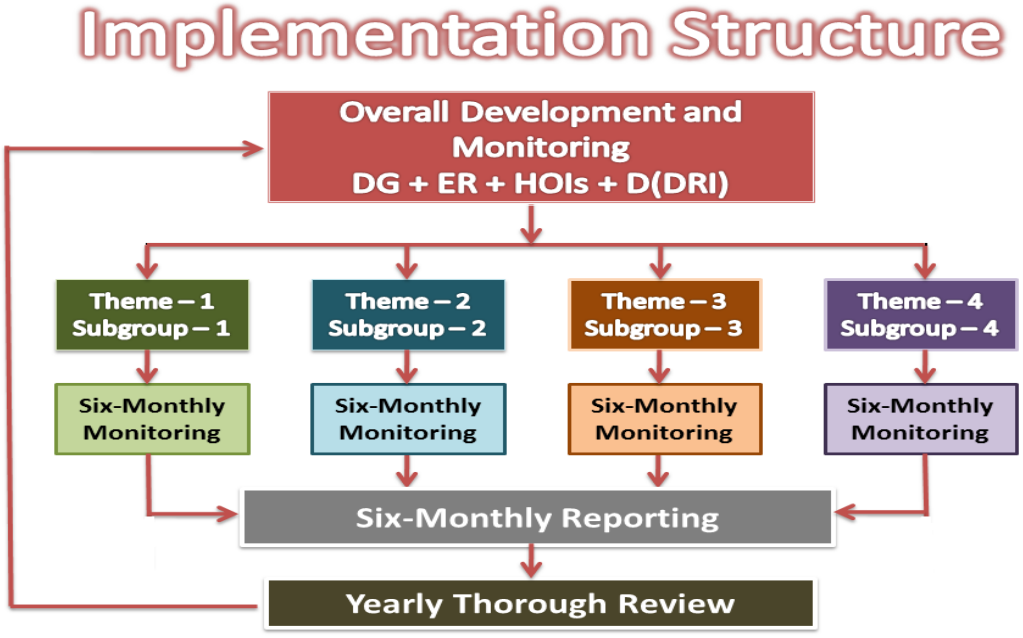


Figure 1.5: Closed-loop monitoring of strategic plan of the university

Chapter – 2

Strategic Plan of the Institute of Technology

2.1 About the Institute of Technology

2.1.1 Preamble

The quality of education imparted to the young minds determines growth, empowerment, as well as the overall progress of a particular region, state, or country. Professional education at large, especially in agriculture, law, healthcare, and technology is, however, mostly offered in the silos of respective domains and separate from higher education in core sciences and liberal arts. The isolation deepens further as domain-specific universities are being established separately. Although the efforts in professional education have been focused - mainly on making students "job-ready" or "industry ready", the outcomes in terms of "being employable" leave a lot to be desired.

Technical education has become vital for industrialisation (with minimum carbon footprint), creation of jobs, improvisation of the living standards, and alleviation of societal problems. It is, further, very closely related to the economic standing of a country across the globe. It, therefore, becomes imperative for technical education to undertake a periodic review of the curricula and courses of the various technical programmes to ensure that they are up to date and effectively fulfil the technological requirements of the country.

The cutting-edge research in technology and engineering leads to quicker obsolescence and adds new dimensions to the knowledge base. The advances in technology affect the pedagogy of technical education. They stress on preparing life-long learners - a breed that can take up the challenges of the digital era. In the future, there will be a greater need for close collaboration between industry and institutions to drive innovation, foster creativity, and to support interdisciplinary research and skill development.

The focus of this strategic plan is to develop the students' knowledge base, skill sets, and research and innovation competencies. It also envisages to update/upgrade/train the faculty and to prepare them for imparting the requisite skills and enhancing research and development. It

is also desired that the institute is brought on the world map and the requisite activities are initiated.

2.1.2 Institute of Technology, Nirma University

Institute of Technology, Nirma University, earlier known as the Nirma Institute of Technology, is a constituent institute of Nirma University. The institute was the first self-financed engineering college in the state of Gujarat, established in the year 1995 by the legendary industrialist and philanthropist Padma Shri Dr Karsanbhai K Patel.

Within a span of twenty-four years, the institute has become a leading hub of education, offering multidisciplinary undergraduate, postgraduate and doctoral programmes in engineering and technology. The institute is ranked among the top 15 self-financed engineering colleges of India in the survey conducted by various rating agencies, like, Outlook – iCARE, Times of India Rankings, Career 360, etc. Also, the institute is ranked in the band of 100 to 150 top engineering colleges by the National Institutional Ranking Framework (NIRF), initiated by the MHRD, Government of India.

The institute is known for its robust academic programmes, quality teaching-learning process, and over-all personality development interventions of its students. The institute gives ample opportunities to its students and strives to equip them by providing the knowledge, skills, and attitudes required for life-long learning and success. The institute has adopted Outcome-based

Education (OBE) and restructured the curricula of various programmes. Further, it is consistently moving towards learner-centric education and focussing on blended learning. All the undergraduate programmes of the institute are accredited by the National Board of Accreditation (NBA).

The Institute of Technology has two schools, namely the School of Engineering and School of Technology. As shown in Figure 2.1, the School of Engineering has departments of Mechanical Engineering, Electrical Engineering, Civil Engineering, and Chemical Engineering under its fold and the School of Technology comprises three departments, i.e., departments of Electronics & Communication Engineering, Computer Science & Engineering, and Instrumentation & Control Engineering.

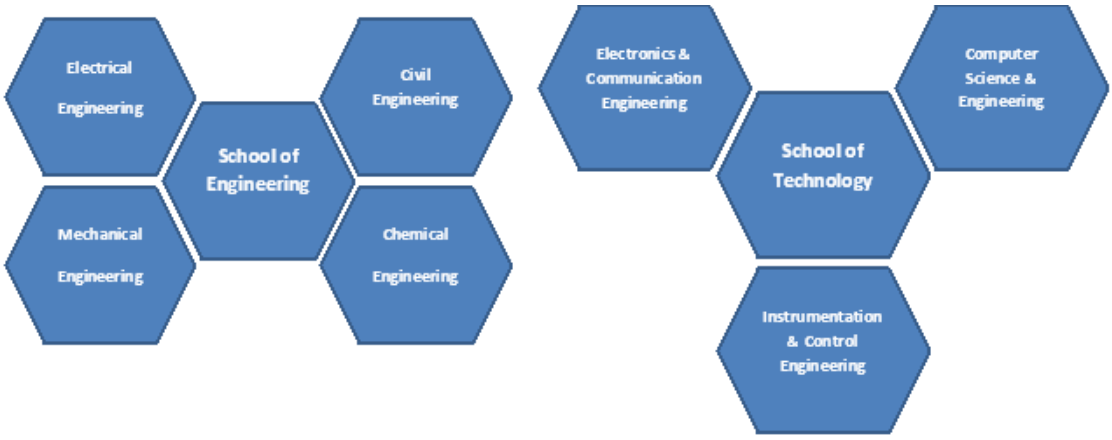


Figure 2.1: Departments in the School of Engineering and School of Technology

In the past, the Institute of Technology developed its Strategic Plan for the period of 2014-19. In the said plan, the major focus was on:

- Implementing Outcome-based Education
- Increasing faculty strength at the senior level
- Enhancing the research, consultancy and interdisciplinary activities, and
- Strengthening extension and societal activities

In the last five years, combined efforts were made by all the stakeholders to achieve these goals. Majority of the targets envisaged in the first plan are achieved. Now, it is time that we draft a strategic plan for the next five years, i.e., 2020-25. Based on the learnings, analysis, and outcomes of the previous strategic plan, this time the major thrust is on 'Growth with Excellence'.

In the two decades of its journey, the institute has established itself as one of the leading centres of higher education in the country. Robust academic programmes and quality teaching-learning processes ensure the technical soundness of the students and encourage them to take-up technical challenges. A blend of co-curricular, extra-curricular, societal, and professional activities alongside academic activities mold students holistically and professionally. The institute takes all measures to provide the students with academic ambiance, offering a wide scope to interact with academic as well as the professional community. Over the years, the institute has intensely worked to achieve excellence and is now known for disciplined pedagogy, learner-centric approach, geographically diverse meritorious student body, active linkages with industries, and research organisations.

2.1.3 Institute's Thrust on Quality Enhancement

Institute of Technology, Nirma University continuously thrives to provide all the ingredients needed for the conducive environment for the all-round development of its students. The institute always inches towards quality enhancement to fulfil the aspirations of the students. Efforts are, in turn, put for enriching the skills of the faculty members to ensure the needed quality enhancement. The objective is to create an institute where students and faculty members, both feel satisfied and grow as a technically capable community for the overall growth of industry and society.

2.1.4 Broad Status and Structure of Engineering Education in India

In the last decade, engineering education in India has been full of challenges. The proliferation of engineering institutes, fast obsolescence of technology, changes in course delivery methodology, faculty preparedness & industry expectations, declining interests of students in STEM education, rising fees and infrastructure requirements in engineering, inequitable access to higher education by the community, and then re-defining quality in engineering education. Even with these challenges, the institutes in India have been building strong technical foundations of its students, emerged with productive research outcomes, and offered leaders to the world in the field of technology and business.

Looking to the social, economic, demographic, political, and industrial requirements, there are varied types of engineering institutions across the country. The engineering institutes across India are mainly classified as below:

1. Indian Institute of Technology (IITs) - Centrally funded institutes
2. National Institute of Technology (NITs) - Centrally funded institutes
3. Deemed University/Deemed to be University
4. Government Engineering Colleges (usually run by the states, Govt aided and affiliated to the State Universities)
5. Institutes under Public-Private Partnership
6. Private Engineering Institutes (Constituent institutes or affiliated to state universities, self-financed)

It may be noted that there are about 11,000 degree and diploma institutes of higher learning catering to about 33 lakh students (https://facilities.aicte-india.org/dashboard/pages/dashboardaicte.php). The higher education system has witnessed particularly high growth in the last decade, with an enrolment of students increasing at a CAGR (Compound Annual Growth Rate) of 10.8% and institutions at a CAGR of 9%.

The private higher education sector has played an instrumental role in this growth, with private institutions now accounting for 64% of the total number of institutions and 59% of enrolment in the country. The GER in the last five-year plan of government (the Twelfth Plan) is envisaged to be 25% by 201718 and reach the target of 30% by 2020–21, broadly in line with the world average. Various legislative actions taken by the government include - the introduction of the Higher Education and Research Bill, the Educational Tribunal Bill, and the Foreign Educational Institutions Bill, to enhance transparency and quality in the sector.

While the number of engineering institutes across the country has increased, the demand of engineering graduates, especially in the areas of artificial intelligence (AI), internet of things (IoT), machine learning (ML), nanotechnology, computational biology, biotechnology, biomedical, mechatronics, electric vehicles, renewable energy, environmental engineering, block chain, robotics, and cyber security is increasing day by day.

In the last decade, the expectations of the industry from engineering graduates have changed significantly. Especially, the fast-growing industrial sectors demand ethical engineering graduates knowing the recent trends, proficiency in software programming, problem-solving ability, critical thinking skills, self-learning and positive attitude, and professionalism~~, etc~~.

Looking to these, the academic institutions will have to continuously monitor the future skill requirements and make suitable changes to the content and pedagogy so that the graduating students have the right capabilities for the job-in-demand. Simultaneously, the institutes will have to focus on employment-centric and start-up centric education.

2.1.5 Challenges in the Field of Technical Education

Globalisation has resulted in many new challenges in the field of technical education not only in our country but also around the world. With the growing modernisation, the demand for trained technical workers is increasing day by day. This scenario has also led to a lot of challenges in the field of technical education in the country. Till recently, technologies were mostly imported and the training needed for these technologies was generally carried abroad. Globalisation has opened the economy to global players in the industry. As a result, new products and services are being introduced continuously with improved quality and customer focus. The most important factor in the success of industry and services is only by meeting them with a group of highly motivated and meticulously trained personnel. The knowledge and technical skills of this workforce have to be regularly updated. The engineers coming out of institutions should be capable of meeting the challenges of the modern industry. However, the moot point is - are they capable and ready for this?

In the New National Education Policy 2020, the following aspects have been emphasised for modernisation of technical education:

1. Curriculum to strengthen undergraduate degrees
2. Strategic thrust on new and emerging disciplines in professional education
3. Encouraging industry interactions
4. Improving equity and inclusiveness in technical education

Modern India has a strong need for robust and innovative technology solutions, be it to improve the quality of life or to be at par with global standards. The growth in vibrant economies of the world has been fuelled by innovation, disruptive technology, and product development, which have roots in state-of-the-art research and education in academic institutions. Such institutions are strategic assets of a nation, contributing to both national prosperity and national security. Successful institutions have strong links with local communities and industry. They contribute

to the city, the region, and the nation. It is recognised that technology has a major role in transforming lives. Creating an enabling ecosystem for innovation and entrepreneurship is thus a key activity for progressive educational institutes.

2.2 Development of Strategic Plan

2.2.1 Strategic Planning Process

The strategic plan of the Institute of Technology is developed based on discussions with several internal as well as external stakeholders. An intensive study of the educational trends was conducted and their implications examined for the growth of the Institute. Also, while developing the strategic plan, several policy documents and reports published by the Government/Non-Government organisations were studied carefully. A few of the important documents are mentioned below:

- National Education Policy 2020
- Report of the BVR Mohan Reddy AICTE Committee for Preparing Short and Medium-term Perspective Plan for Technical Education
- UGC Working Committee Report on, 'Enabling and Enhancing University and Industry Linkages'
- AICTE – CII Survey of Industry Linked Technical Institutes 2018
- All India Survey on Higher Education 2017-18
- Report of the FICCI Higher Education Summit 2018
- AICTE Model Curriculum of Courses at UG Level in Emerging Areas
- The Millennium Development Goals Report (2015) of the United Nations
- Strategic Plan-I of the Institute of Technology, Nirma University for the duration of 2014-2019

The entire plan is developed based on thorough discussion and deliberations at different levels. Apart from the Heads of Departments, the senior faculty members of the institute were also involved in the planning process. The academic leaders have enthusiastically participated to identify the key strategic goals, objectives, and important milestones and make significant contribution. Direct and indirect feedback from various stakeholders (academic peers, industry experts, alumni, parents, etc) was also considered while finalising the strategic plan.

2.2.2 Organisation of the Strategic Plan

The strategic plan of the institute is worked out in two parts, i.e., for School of Engineering (SoE) and School of Technology (SoT). The Institute endeavours to analyse the external environment of the institution and then scrutinise the internal structure. It includes strategic goals and consequent targets. For different goals, a set of action plans and targets are finalised. The implementation and monitoring of the strategic plan are also included in this report.

Part – A

School of Engineering

(SoE)

2.3 Environmental Assessment and Analysis

2.3.1 Technology Scenario

Technological advancements in the last decade have been disruptive and challenging to deal with. This may need to be tackled with higher-order engineering solutions and technological developments. Engineering students need to be equipped with cutting edge knowledge and practices to be industry-ready, in turn improving the placement scenario of the institute. This needs a paradigm shift in higher education teaching-learning philosophy. More exposure to the E-learning platform may offer a danger to well-established institutions. Faculty members need to uproot traditional pedagogical methodology to accept new technologically driven pedagogy skills.

2.3.2 International Education Scenario

The scenario of higher education internationally is dynamic and changing exponentially. The international academic institutions are welcoming Indian students with the doors wide open, pressing Indian institutions for drawing a concrete strategic plan to survive with good student enrolment. It also offers an opportunity to institutions for collaborative programmes benefiting both partners involved. The international education system appreciates Indians and thus, the Indian institutes may attract good professors of foreign and Indian origin.

Technical higher education is increasing global enterprise; hence Indian institutions should embrace internationalisation that could provide them with new opportunities. The country's rationale for internationalisation would be to enhance its soft power, improve standards of domestic provision, and produce graduates with international competencies and skills. This can best be achieved by having more innovative partnerships. Given the historical advantage in higher education (particularly among emerging market economies) the widespread use of English language and low-cost living, India can potentially become a global hub for higher education. We need to provide greater autonomy to our Centres of Excellence to enter into a collaborative partnership with the best universities abroad.

2.3.3 Regulatory Scenario

Higher education institutions are regulated by the national body. The requirement of various ranking frameworks, and accreditation regulated by the apex national body becomes a must for visibility of the institution. Institute must participate in such a certification programme to

remain in competition with other institutions and attract good students with demographic diversity. Institute should work out various strategies to comply with such regulatory requirements by enhancing teaching-learning and research activities.

In a nutshell/To conclude , with new regulatory arrangements and focussed action in key areas, particularly expansion and quality improvement, we hope to build a robust higher education system through UGC, AICTE, and Government of Gujarat that would sustain rapid economic growth, promote international competitiveness, while at the same time meet the rising expectations of the young enterprising Indians.

2.4 Competitive Analysis: Strategic Grouping and Benchmarking

2.4.1 Strategic Grouping

At the global level, the approximate Science and Technology manpower per 1000 population is as: India 4, China 8, South Korea 46, USA 55, Germany 76, Israel 76, and Japan 110. If India has to emerge as a developed industrialised nation, it has to expand access to professional education manifold. In China, about 34% of the total number of University students are studying Engineering while in India about 6% are studying Engineering. At the postgraduate level, there are about 40% of graduate students in China, while in India about 4% of graduate students pursue postgraduate engineering studies. This shows low emphasis placed on engineering education at both the undergraduate and postgraduate level in India. If the Indian economy has to catch up with other growing economies, the percentage of students entering engineering education must increase substantially.

Today, there are about 349 private universities and more than 3500 engineering institutions in India. In Gujarat itself, there are 38 private universities and about 120 engineering institutes. At the local level also, in the close vicinity, there have been set-ups of few government/private institutions of national repute, such as IIT Gandhinagar, DA-IICT, PDPU, IIIT Vadodara, IIT-RAM, etc. The Government of Gujarat is also supportive in establishing more new institutions on the Public-Private Partnership (PPP) mode. This growth is expected to be there in the next decades to come. The very strong competitive environment has been created by this growth at the local level also.

2.4.2 Benchmarking

Gerald Balm defines benchmarking as: "The continuous action of comparing a process, a product or a service with a similar activity, known as being the best in that field, to establish ambitious but real improvement objectives and actions to become and keep the number one position among the best within a reasonable period of time."

In view of the above benchmarking for different activities, the Institute of Technology envisages to be one of the leading Institutes in the processes of student support and progressions, faculty development, and research. In the long run, the Institute will focus on benchmarking the developed IITs and International Institutes of repute.

2.5 SWOC Analysis

2.5.1 Strengths

- Excellent regional reputation with well-established national recognition and developing an international footprint
- Young, dynamic and dedicated faculty & staff members aligned with institutional goals
- Well placed closed-loop feedback system for curriculum development encompassing all the stakeholders
- Transparent management policies with well-defined procedures
- Well-disciplined conducive academic environment and ambiance
- State-of-the-art laboratory infrastructure
- ICT usage for enhancing various academic activities
- Active linkages with industries and research organisations
- Continuous emphasis on faculty and staff development
- Well-established alumni network and their available support

2.5.2 Weaknesses

- Large proportion of faculty members with limited industry exposure
- Lack of middle-level experienced faculty
- Deficiency of specialised laboratories/centres of excellence
- Limited availability of quality research time
- Limited consultancy, sponsored research activities and patents
- Minuscule interdisciplinary programmes and research

2.5.3 Opportunities

- Placed in well-connected geographical location and growing industrial hub
- Well-defined and encouraging policies for research, and academic autonomy
- Collaboration with Indian and foreign institutions of repute for research and academic activities
- Presence of well-reputed sister institutes on campus for inter-disciplinary collaboration and research
- Flexibility in developing an interdisciplinary academic programme in emerging/thrust areas
- Establishment of research chair positions for boosting research, innovations and faculty competence
- Fostering social responsibility in higher education for holistic development
- Strengthening innovations and intellectual property rights

2.5.4 Challenges

- Existence of educational institutions of repute in the vicinity
- Attracting and retaining experienced faculty members
- Lack of quality students in the postgraduate programmes
- To attract full-time motivated PhD students for enhancing research outcome
- Keeping pace with rapidly changing domains of technology
- Difficulty in obtaining externally funded research grants and consultancy activities
- Exploiting the sources of the endowment for sustainable institutional growth

2.6 Strategic Goals

2.6.1 Strategic Goals of the School of Engineering (SoE)

Strategic goals of the school are as follows or under:

Goal-1: To emerge as the highly respected technology-focused learning institution

Goal-2: To enhance faculty competence and visibility

Goal-3: To improve research, consultancy, innovation, and extension

Goal-4: To expand footprint globally

2.6.2 Strategies to Achieve the Goals, Targets and Implementation Plan

Goal-1: To emerge as the highly respected technology-focused learning institution

Strategy-1. Offering flexibility by incorporating more interdisciplinary courses and minor specialisations

Strategy-2. Introducing new multidisciplinary Postgraduate programmes

Strategy-3. Facilitating industrial internships for enhancing industry-readiness and employability of students

Strategy-4. Improving the performance of students in competitive and professional exams

Table 2.1: Five yearly targets for emerging as the highly respected technology-focused learning institution

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Introducing interdisciplinary courses	-	14	7	7	-
Introducing new multidisciplinary PG programmes (branch wise)	-	-	1	1	2
Percentage of students deputed for summer/winter internship	-	25%	50%	65%	80%
Percentage of students qualifying the competitive/ professional exams	10%	15%	20%	25%	30%

Goal-2: To enhance faculty competence and visibility

Strategy-1. Improving the qualification of existing faculty members by deputing them for Postdoctoral Fellowships (PDF) / PhD programmes

Strategy-2. Recruiting highly qualified faculty members

Strategy-3. Imparting training to faculty members through participation in industrial training, STTPs, FDPs, workshops, seminars, refresher courses, etc.

Strategy-4. Encouraging faculty to participate in various academic and professional activities (outside Nirma University) for better visibility

Table 2.2: Five yearly targets to enhance faculty competence and visibility

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Faculty deputation for Higher studies	-	3	4	4	4
Recruiting highly qualified faculty	-	1	2	2	3
Faculty to be deputed for professional development	50%	50%	55%	55%	60%
Percentage of faculty involved in various academic and professional activities (outside Nirma University) for better visibility	15%	20%	25%	30%	35%

Goal-3: To improve research, consultancy, innovation and extension

Strategy-1. Fostering research at the undergraduate level and enhancing research at postgraduate and doctoral level

Strategy-2. Modernising existing laboratory infrastructure; establishing centres of excellence/new research facilities

Strategy-3. Sustaining and improving research outcomes through high-quality research papers, collaborative funded research projects, IPR, consultancy, testing, and training assignments, offering sustainable solutions to societal problems

Strategy-4. Nurturing innovations, start-ups, and entrepreneurs through technical mentoring and support

Table 2.3: Five yearly targets to improve research, consultancy, innovation and extension

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Supporting students for research aptitude/development	5%	10%	15%	20%	25%
Modernising existing laboratories with trends, (with new CoE / research facility establishment alternate year)	10%	30%	50%	70%	85%
Publications in journals/conferences	55 / 70	65 / 75	75/ 80	85/ 90	95/ 95
Promoting innovations, start-ups and entrepreneurial ventures	2	2	4	4	4

Goal-4: To expand footprint globally

Strategy-1. Increasing study-abroad programmes, internships, and projects at Universities/organisations globally

Strategy-2. Attracting more international students for academic interface/internships/projects and inviting foreign faculty/experts for long/short term assignments

Strategy-3. Enhancing Institute collaborations for attracting research funding from international organisations

Strategy-4. Preparing for international level accreditation and ranking

Table 2.4: Five yearly targets to expand footprint globally

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
No of students/faculty proceeding for higher studies/internships/projects at Universities / organisation abroad	50	60	70	80	90

No of foreign students /experts visiting NU campus for academic interface	-	4	8	14	20
No of collaborative research proposals to be submitted to international organisations	05	08	10	12	15
No of departments to apply for ABET/other international accreditation/ranking	-	-	-	02	02

Part – B

School of Technology

(SoT)

2.7 Environmental Assessment and Analysis

2.7.1 External Environment Analysis

Strategic planning is a dynamic process that needs frequent checks and time-to-time fine-tuning of the strategies and implementation plans/actions. It undergoes a process of ongoing assessment, including the evaluation of the conditions under which the plan is developed and implemented – conditions that may change over the five-year life of the plan. It is important to note that while the environment may shift, demanding adjustment to the plans. However, the values, aspirations, and goals will remain the constants in the process.

2.7.2 International Scenario

Technology is a critical driver of economic development today, and globalisation promises to bring that relationship to all societies of the world. Engineers are crucial for effective technology management. At the same time, educating engineers who can adapt successfully to the ever-changing fields and complexity of technology and technology-based systems is a significant challenge.

With the evolution of the Internet and the pervasive use of Information Technology, globalisation has become a potent force and powerful new multi-national companies have emerged on the global scene. The G-8 group of nations has evolved to G-20. Most of the societal grand challenges, such as energy, sustainability, and cybersecurity, require global solutions. We must, therefore, prepare engineering graduates for this new environment.

2.7.3 Industry Scenario

The expectations of the industry from engineering graduates have changed significantly in the last decade. Especially, the fast-growing industrial sectors demand engineering graduates having knowledge of the recent trends, proficiency in software programming, problem-solving ability, critical thinking skills, positive attitude, and professionalism, etc. Also looking to the emerging trends, the focus is on technologies like Data Science, Artificial Intelligence (AI), Machine Learning, Internet of Things (IoT), Mobility, Robotics, Augmented and Virtual Reality, Cyber Security, Data Analytics, and Cloud.

Today India is poised to enter into the developed countries list with the vision to become a five trillion-dollar economy. The availability of trained manpower will be a crucial factor to achieve the required industrial and overall GDP growth. If we look at the overall industry manpower requirement, there are three types of jobs, viz jobs requiring problem-solving skills, rule-based process-driven jobs, and the repetitive action-based jobs. To become a knowledge-based economy, India needs to prepare the graduates/postgraduates who are ready for problem-solving types of jobs. Research and innovation-based education system will be required to create problem solvers. The School of Technology shall encourage the research and innovation culture to thrive in the campus through various activities.

2.8 Competitive Analysis: Strategic Grouping and Benchmarking

2.8.1 Strategic Grouping

Today there are more than 250 private universities and more than 3500 engineering institutions disseminating engineering education in India. In Gujarat itself, there are more than 60 private universities and 136 engineering institutes. In the country, apart from the Indian Institutes of Technology (IITs)/National Institutes of Technology (NITs), there are many private engineering institutes like the BITS - Pilani, *Vellore Institute of Technology* (*VIT)*-Vellore, SRM Institute of Science and Technology - Tamil Nadu, PSG College of Technology-Coimbatore, Amrita School of Engineering - Karnataka, Manipal Academy of High Education have come up in a big way offering technical programmes in different engineering disciplines. At the local level, in and around Ahmedabad, there are several governments, private and public-private partnership-based setups like Indian Institute of Technology (IIT-Gandhinagar), Dhirubhai Ambani Institute of Information and Communication Technology (DAIICT), Pandit Deendayal Petroleum University (PDPU), Indian Institute of Information Technology (IIIT-Vadodara), Sardar Vallabhbhai National Institute of Technology (SVNIT-Surat). This has created a strong competitive environment at the local level also.

2.8.2 Benchmarking

Benchmarking with appropriate peers, at the state, national and international level enables the University to compare and evaluate its performance, monitor academic and administrative standards, compare good practices carried out by reputed institutions. This, in turn, helps an

institution to make quality improvements to become and maintain the number one position among the best within a reasonable period.

While developing the Strategic Plan, different types of Institutes were studied, e.g. (i) IITs, (ii) Self-Financed Engineering Institutes, and (iii) Foreign Universities. After studying some of the leading Institutes in these categories, it was decided to benchmark the following Institutes:

IIT Category

(i) Indian Institute of Technology (IIT) - Bombay and
(Benchmarking: For Academic Programmes, Curriculum Design, Research, and Incubation/Entrepreneurship)

(ii) Indian Institute of Technology (IIT) – Gandhinagar
(Benchmarking: Opportunity for the students to learn from wherever, however and whatever they choose to study, linkages with the global institutions, student empowerment)

Self-Financed Institute Category

(i) Birla Institute of Technology & Science (BITS) - Pilani and
(Benchmarking: Modular and Flexible Curriculum, and Elective Courses)

(ii) Amrita School of Engineering, Amrita Vishwa Vidyapeetham-Coimbatore
(Benchmarking: Value-Based Education, Soft-Skill Courses, and Infrastructure)

Foreign University Category

(i) University of Southern California (USC), USA and
(Benchmarking: Opportunities for Interdisciplinary Study, Research Collaboration and Infrastructure)

(ii) Massachusetts Institute of Technology (MIT), USA
(Benchmarking: Academic Rigour, Research Outcomes, Faculty Competency)

2.9 SWOC Analysis

The Head of the Institute and the senior faculty members of the Institute carried out the SWOC analysis of the Institute. The strengths, weaknesses, opportunities, and threats of the University are described below:

2.9.1 Strengths

- Strategic location, good Infrastructure, and excellent ambience
- Students groomed to ensure a successful career path through effective counselling and on-campus placement opportunities
- Commendable regional and national reputation with meritorious candidates seeking admissions to undergraduate, postgraduate and doctoral programmes
- Dedicated faculty and staff members with a vision to grow and passion to contribute
- Visionary and transparent management and academic policies in place for effective and inclusive leadership
- Learner centric and personalised attention to the students through continuous evaluation and scheduled mentoring
- Geographical diversity among students, faculty members and staff members in the Institute
- Sufficient scope for on-campus expansion and growth
- Active linkages with international universities, industry, and research organisations
- A bottom-up approach to include all stakeholders in planning and development for overall progress
- Sufficient motivation to use ICT Tools, gadgets and applications for effective teaching-learning processes

2.9.2 Weaknesses

- Deficiency of specialised laboratories/centres of excellence
- Limited linkages with industry and R&D
- Limited consultancy, sponsored research activities and patents
- Lack of fast-track programmes
- Limited hostel facilities for undergraduate students

2.9.3 Opportunities

- Offering the academic programmes in emerging/thrust areas interdisciplinary areas
- Offering e-education/digital education
- Collaboration with Indian and foreign institutions of repute for benchmarking, research and academic activities
- Attracting international students
- Strengthening intellectual property rights
- Applying for the international accreditation

2.9.4 Challenges

- Growth of educational institutions in the vicinity providing tough competition
- Attracting and retaining experienced faculty members and developing a wide spectrum of expertise
- Changes in education policies at the state and national level
- Lack of Support from Government Funding Agencies for Projects and Scholarship (especially UGC and AICTE)
- Governmental Control of Admissions and Fees

2.10 Strategic Goals

After several meetings and brainstorming sessions, it was decided to first identify the important themes to be determined for the next five years. Subsequently, strategic goals were identified. And for each specific goal, strategies were decided. Also, the targets were finalised for each goal for the next five years starting from the academic year 2020-21.

The important themes are highlighted below:

1. Strengthening teaching-learning processes
2. Enhancing research outcomes
3. Student centricity
4. Faculty development

2.10.1 Strategic Goals of the School of Technology (SoT)

Strategic goals of the school are as follows/under:

Goal-1: To excel in teaching-learning by updating curricula and adopting innovative pedagogy techniques

Goal-2: To establish national and global linkages with the industries, research organisations, universities, NGOs

Goal-3: To enhance research and innovation

Goal-4: To improve/enhance the qualification, skill and professional competence of the faculty

2.10.2 Strategies to Achieve the Goals, Targets and Implementation Plan

Goal-1: To excel in teaching-learning by updating curricula and adopting innovative pedagogy techniques

Strategy-1. Introducing multi and inter-disciplinary programmes in areas of emerging technology

Strategy-2. Revising the curricula of the existing programmes with a focus on employability, entrepreneurship, and skill development

Strategy-3. Attaining Faculty-Students Ratio (FSR) of 1:15

Strategy-4. Offering flexibility in curricula by incorporating more electives and value-added courses

Table 2.5: Five yearly targets to excel in teaching-learning by updating curricula and adopting innovative pedagogy techniques

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
New Programmes	Integrated BTech – MBA	Executive Diploma Programmes in: Data Science, and Industrial Automation	Increase in intake (60) in BTech CSE, BTech AI and Machine Learning, BTech in Computer and Communica-tion Engg.	MTech IC (C&A), Integrated BTech – LLB	MSc in Industrial Mathema-tics, MA in English
Curriculum Revision	PG Prog., BTech Sem. III, IV	BTech Sem. V, VI	BTech Sem. VII, VIII	PG Prog., BTech Sem. I, II	BTech Sem. III, IV

Faculty-Students Ratio	1:20	1:19	1:18	1:17	1:15
New Electives / Value-Added Courses	47/2	20/3	29/4	14/5	8/5

Goal-2: To establish national and global linkages with the industries, research organisations, universities, and NGOs

Strategy-1. Strengthening the existing MoUs by increasing the collaborative activities

Strategy-2. Establishing new linkages with the premier national and global industries

Strategy-3. Offering tailor-made training programmes to the industries

Strategy-4. Contributing to the extension activities by joining hands with the NGOs

Table 2.6: Five yearly targets to establish national and global linkages with the industries, research organisations, universities, and NGOs

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Number of collaborative activities under the existing MoUs	7	6	6	6	6
New MoUs with Foreign Universities/ Industries/NGOs	3	4	5	6	6
Number of training programmes for industries	3	4	5	5	5
Number of extension activities with NGOs	6	6	6	6	6

Goal-3: To enhance research and innovation

Strategy-1. Strengthening the infrastructure for research and innovation.

Strategy-2. Establishing new laboratories/centres of excellence.

Strategy-3. Raising the standard of the postgraduate and doctoral programmes and integrating research in undergraduate programmes.

Strategy-4. Increasing the research outcomes (funded projects, publications, patents, etc).

Table 2.7: Five yearly targets to enhance research and innovation

Metrics/Year		2020-21	2021-22	2022-23	2023-24	2024-25
Number of laboratories to be modernised		2	4	2	3	3
New laboratories and Centres of excellence		3	4	4	4	4
Number of full-time PhD students to be enrolled		4	8	9	11	12
Research outcomes	Number of new research projects	5	6	10	10	10
	Number of publications in journals	64	71	76	83	88
	Number of patents	1	1	2	2	3

Goal-4: To improve the qualification, skill and professional competence of the faculty

Strategy-1. Encouraging faculty members for completion of the PhD programme and enrolling for post-doctoral studies.

Strategy-2. Facilitating faculty exchange programmes.

Strategy-3. Enhancing participation in reputed conferences and training programmes.

Strategy-4. Motivating for applying in various awards, fellowships, and incentive schemes.

Table 2.8: Five yearly targets to improve the qualification, skill and professional competence of the faculty

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Number of faculty to complete PhD	4	6	10	13	14
Number of faculty to be deputed for exchange programmes	1	2	3	3	4

Number of faculty to be deputed for reputed conferences	36	47	51	55	60
Number of faculty to be motivated for applying in various awards, fellowships, and incentive schemes	5	8	10	12	15

2.11 Monitoring and Alignment: Structure and Systems

The Institute of Technology is very serious about implementing and monitoring the progress of the Strategic Plan. The plan will be implemented and closely monitored at two levels,

Institute Level Core Team

The Institute Level Core Team will have the following members:

- Director
- All HoDs
- Institute IQAC Coordinator

The Institute Level Core Team will meet at least once in six months and review the progress of the Strategic Plan. The Core Team will guide the Department Level Committees in effective implementation of the Plan. The progress reports received from the Department Level Committees will also be discussed in the Institute Level Core Team and the progress report will be submitted to the University.

Department Level Committee

The Department Level Committee will have the following members:

- Head of the Concerned Department
- Senior Faculty/PG Coordinators
- Department IQAC Coordinator

The Department Level Committee will hold review meetings on a regular basis (at least twice in six months) and see that the plan is implemented effectively. The Committee will discuss the progress, difficulties being faced by the department, probable solutions, new initiatives to be taken, etc. The Committee will also send its report to the Institute Level Core Team.

Chapter – 3

Strategic Plan of the Institute of Management

3.1. About the Institute of Management

3.1.1 Preamble

The Institute of Management, Nirma University, earlier known as Nirma Institute of Management, was established in 1996 as an autonomous institute, became a constituent Institution of Nirma University in 2003. It has made rapid strides in its 24 years of existence and is now ranked consistently amongst the top 25 business schools in the country.

3.1.2 Programmes

The Institute started with offering PGDM (FT) and PGDM (PT) in 1996 with an intake of 60 students each. In 1999 it started its Doctoral Programme. In 2002, it added another section to its Full Time Programme. MBA (Family Business &Entrepreneurship) programme was started in the year 2004. The 5 years integrated BBA-MBA programme was launched in 2013. The Part-Time programme was discontinued in 2011. A new PhD. programme (external) was introduced in 2008. A specialised MBA (HRM) programme is being launched at the start of the new academic session from June 2020. A second integrated programme BTech (CSE)-MBA is also being launched at the same time. Table 3.1 presents the significant milestones in the Institute's journey thus far.

Table 3.1: Significant milestones of IMNU

Year	Milestone
1996	Establishment of the Institute and commencement of PGDM (FT)
1996	First NICOM held
1996	Commencement of Part-time PGDM
1998	The first batch of PGDM passed out successfully
1999	Commencement of Doctoral Programme in Management (Formerly FPM)
1999	Commencement of Executive Diploma Programme
2002	Second section of PGDM (FT) added
2003	The Institute became a constituent of the University

2004	Commencement of MBA (Family Business and Entrepreneurship)
2006	Launched Nirma University Journal of Business Management Studies
2008	Commencement of Ph.D. (Part – Time) Programme
2010	Accredited by NAAC
2012	Commencement of Company Specific Diploma Programme
2013	Commencement of BBA-MBA Programme
2017	International SAQS Accreditation from AMDISA
2019	Ranked 40th by National Institute of Ranking Framework (NIRF) MHRD, GOI
2019	Accredited by NBA
2020	Commencement of the MBA (HRM) and B. Tech (CSE) - MBA Programmes

The Institute's two-year MBA (Family Business & Entrepreneurship) is targeted towards the next generation of family business owners, and young graduates with no experience in business but who exhibit entrepreneurial ambitions. The main objectives here are to equip students to align vision and mission of the family business with the professional business processes and to inculcate understanding of significance of succession planning for family owned business. The programme also focusses on developing international mindset and developing the capability of effective decision making. The intent is to develop students who can foster innovation and creative environment in their businesses and demonstrate abilities for risk taking and coping with ambiguity along with acting as responsible business person by developing ethical thinking and actions. The programme is administered by innovative learning pedagogy focusing on experiential learning and including internships, national and international industry visits and effective business plan mentorship.

The Integrated BBA-MBA Programme is a five-year integrated programme in Management with the first three years being the undergraduate phase and the last two the post-graduate phase. Students also have the option to exit from the programme after receiving their BBA degree. The choice of inter-disciplinary electives from other NU affiliated institutes, enrichment courses to develop soft skills, summer internships and rural immersion are some of the differentiators of this programme. The programme has a unique internship design of seven months spread across the entire duration of the programme. Students completing the five-year

programme qualify for placement opportunity along with the students of the regular MBA programme.

The Executive Diploma Programme is a unique diploma programme offered by the Institute for practicing professionals. This is a programme spread across a year, with classes conducted only on Sundays. Interestingly, a customised version of this diploma programme has also been developed for a leading business group of Gujarat where their executives come for training only on weekends. Two batches of this programme for the business group, covering more than fifty senior level managers has already been completed.

The MBA (HRM) and the B.Tech (CSE) - MBA programmes commencing from the academic session 2020-21 complete the product portfolio of the Institute.

The Institute also conducts Management Development Programmes, both open-house and customised for various companies on a regular basis. Its client list for in-house management development programme consists of some of the leading corporates such as Adani Industries Limited, Indian Oil Corporation Limited (IOCL), Johnson Controls-Hitachi Air Conditioning India Ltd., Zydus Cadila Healthcare Ltd., Kalpataru Power Transmission Limited, and National Dairy Development Board (NDDB).

The Institute today has a combined student strength of 1161 across all programmes (including EDP). The students represent a pan India diversity.

The multiple programmes offered by the Institute strengthen its position as a management institute in the region. This diversity presents a unique developmental opportunity to its faculty members – as the student group of each programme has its own unique features. Creating learning and engagement for a group of students directly from the high school as is the case with students in the BBA-MBA integrated programme can be quite challenging. Engaging students with a family business background to develop in them an appreciation of the professional business processes is the other extreme. Teaching in MDPs or EDPs is an excellent opportunity to challenge oneself and develop through reverse learning. For the potential recruiter too the opportunity to select from both the MBA programme as well as from the integrated BBA-MBA programme while at the campus, presents a wider choice. The robust

infrastructure and an established systems backbone ensures and sustains a seamless integration administratively too.

3.1.3 Achievements

- The Institute has received the prestigious South Asian Quality Assurance System Accreditation (SAQS) from AMDISA for a full five-year term in 2017. Only twenty-three B-Schools in India hold this accreditation.
- The MBA programme of the Institute is accredited by NBA for a three-year term in 2019.
- The Institute was ranked 40 in the National Institute Ranking Framework (NIRF), under the MHRD in the category of management institutes for 2019.

The Institute continues to attract high calibre students and top recruiters from across the country because of the reputation it has earned over the years. This was achieved due to a strong foundation created through hard work and valued contributions of the management, faculty, staff, students, and alumni. This foundation provides a vantage point from which it can position itself as one of the top 15 business schools in the country. Achieving this ambitious goal requires: (a) crafting a strategic plan that is consistent with the institute's as well as the university's overall vision, mission and goals; (b) widely understood and unequivocally supported by university officials, faculty, staff, students, and other key stakeholders; (c) responsive to the key competitive forces in the environment and (d) provides a powerful framework capable of guiding strategic decisions and action plans to constantly innovate and improve all aspects of institute's activities.

IMNU's Aspiration

To be recognized as one of the top 15 business schools in the country, known for its high calibre faculty engaged in high quality teaching, training and research activities.

The institute's aspiration articulates the need to become a holistic business school engaged in high quality teaching, training, and research activities. The need to foster an academic environment by attracting and retaining high calibre faculty is vital for achieving this aspiration.

3.2 Need for the Strategic Plan

During the past two and half decades, management education scenario, globally and nationally, has undergone a massive change. While the demand for good quality management education has increased steadily, the number of B-Schools has also dramatically increased. Today, various estimates place the number of business schools in India at between 4000-4500. The quality of education in many of these can be questioned. However, the new IIMs that have been set up in recent years, has resulted in an intense competition for high calibre students and management faculty. The major challenge in this scenario is: How can the Institute build on its strengths to reach new heights as it completes its two decades of existence?

3.3. Environmental Assessment and Analysis

The Institute of Management, Nirma University (IMNU) was placed at rank 40 in the NIRF rankings for the year 2019. It is the Institute's goal to be placed at number 15 during this plan period, i.e., by 2025. This means that the institute must further strengthen its national character. This is also synchronous with the University's goal of 'becoming a medium sized national university' by the end of this plan period. This section, therefore, presents a brief diagnosis of the current scenario in management education globally as well as in India and a performance analysis of the Institute as a context for outlining a path for the achievement of this goal.

3.3.1. Management Education: Global Scenario

Business organizations across the world are relying on managers trained in new management tools and techniques to improve efficiency and productivity and innovate to stay competitive. The need to enhance management and leadership capability to cope with increased competition and continuous upheavals in organizations have spurred the demand for management graduates with relevant skills, abilities, knowledge, and self-awareness. This, coupled with low entry barriers, has led to a boom in business education worldwide. There are approximately 5300 universities in the United States alone which offer management degrees. The market for

management and executive education is huge with executive education alone estimated to be $1350 billion worldwide.

These are some of the current trends in the global management education scenario today:

- Corporatisation of educational institutions is a transition experienced as a world-wide phenomena. B-Schools today, while retaining their academic leanings, have tended to embrace such corporate orientations as cost and administrative efficiencies and branding. Therefore, increasing competition has led many universities to set up International Branch Campuses (IBCs). Thus, along with other professional credentials, a focus on branding, niche and specialized offerings is not uncommon. According to one study, the number of IBCs in Dubai has increased from 30 in 2009 to 39 in 2017 as revealed by Dubai's Knowledge and Human Development Authority. A 2016 study showed that China had 30 IBCs followed by Malaysia and Singapore with 12 each. (Rogmans, 2019). The trend continues. Such changes have also influenced the internal work systems and operations of business schools, often enhancing collaboration between the main institutions and the cross-border extensions.
- Higher education systems are becoming more integrated as student interest in international mobility increases, calling for efforts to harmonize previously incompatible educational models. Harmonization of degree structures (e.g., the Bologna Accord), the reduction of language barriers, technological innovation, and other trends contribute to a (generally) increasing ease of mobility among students and higher education providers.
- Computer and internet-based technologies have enabled E-learning, computer-based learning packages, on-line courses, MOOC to make gradual inroads into traditional classroom teaching. Blended learning with classroom teaching supplemented by on-line or e-learning are gaining popularity. There is a greater reliance on technology and ICT tools in imparting learning.
- There is a shift in B-school offerings from traditional MBA programmes to more part-time or shorter duration programmes and in-house company programs. Many business schools are expecting to use executive MBAs as a source of major revenue. Global education and training market will increasingly become important growth drivers for business schools. Short courses offered by consulting firms are gaining popularity and the research conducted by professional firms is becoming an alternate source of business research.
- Innovative experiential teaching techniques are being increasingly used to teach topics such

as leadership, entrepreneurship, multi-cultural sensitivity, etc. Harvard Business School's course on 'Negotiations', for example, is based on understanding the thought process involved in negotiations and identifying common mistakes made by even experienced professionals, to enhance the course effectiveness. Kellogg relies heavily on simulations for teaching negotiations, which initially start as one-to-one simple negotiations and gradually become more complex at later stages.

- Collaboration between B-Schools and between B-Schools and the industry is increasing. For instance, Kellogg is working closely with the industry to continuously change its core curriculum to meet the industry needs. It also allows students to specialize sooner so that they can be more useful to the employers. Faqua School of Business collaborating with business school at Seoul National University to expose students to the realities of globalization is another such example.

To sum up, expansion, enhanced collaboration between schools and with industry, adaptation to unconventional operating structures, embracing technology in teaching, innovating programmes and experiential learning are the dominant themes in management education today.

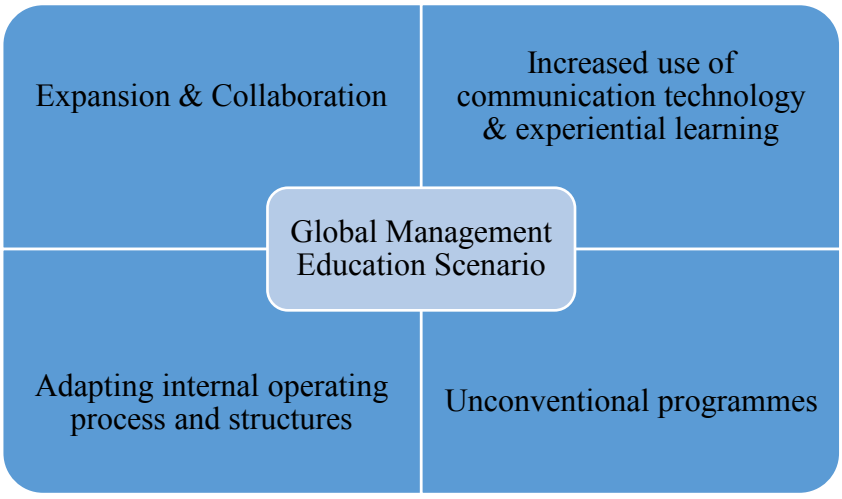


Figure 3.1: Emerging themes in the global management education scenario

3.3.2 Management Education: National Scenario

The national environment in management education has four main constituents viz. the management institutions and their programmes, the industry, the general eco-system and the regulatory environment.

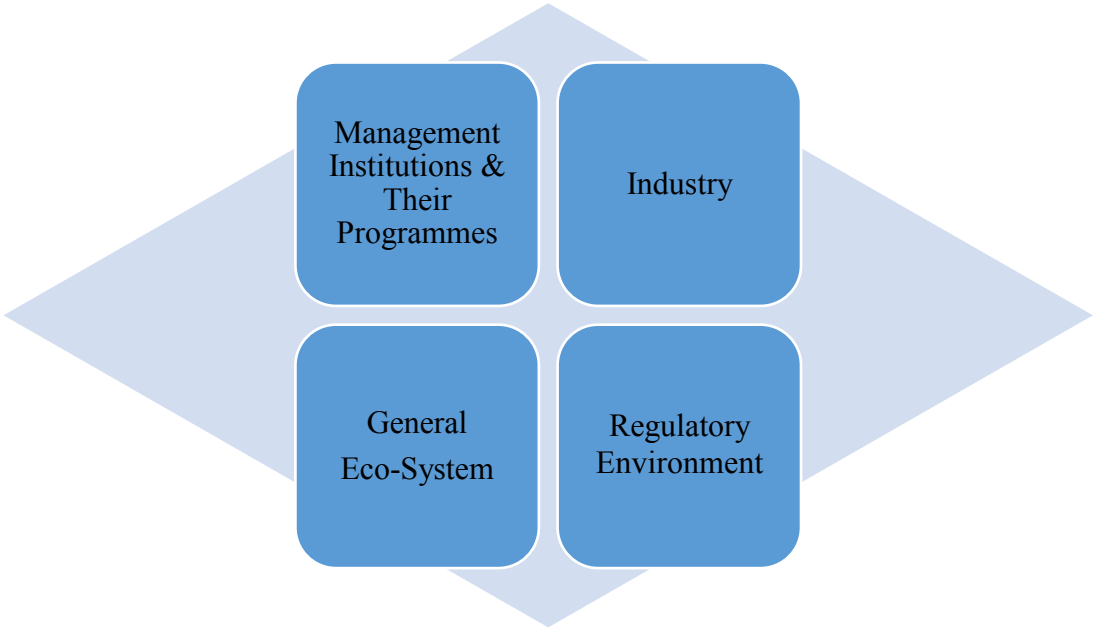


Figure 3.2: Constituents in the national management education scenario

3.3.2(a) Management Institutions and Their Programmes: Various estimates put the number of management schools in India at between 4000 to 4500, classified as follows:

- University – Central, State, Private, Deemed
- Institute of National Importance
- Stand-alone and autonomous institutions

Sixteen other B-Schools or Universities offering undergraduate and post graduate management programmes are ranked above Institute of Management, Nirma University in the NIRF rankings for 2019. The remaining management institutions in this list are the different IIMs (Indian Institute of Management), which are classified as Institutes of National Importance, and the management schools under the different IITs (Indian Institute of Technology).

A detailed review shows a trend towards offering multiple programmes by many institutions in management education. These programmes are sectoral or industry specific specialisations, under-graduate programmes and integrated programmes e.g. MBA (HRM) by IIM, Ranchi, T. A Pai Management Institute, Integrated B Pharm MBA by NMIMS, Mumbai, etc.

3.3.2(b) The Eco-System for Management Education

- **Student Enrolment:** Management continues to remain the second most preferred post graduate learning in India after social sciences. The following table shows the enrolment for post graduate management programmes over the previous three years

Table 3.2: Student enrolment in management programmes in India (in regular mode only)

Year	Post-Graduate	Under-graduate
2016-17	4.16	3.83
2017-18	4.21	4.24
2018-19	4.62	4.76

(figures in lac)

Source: Education statistics. All India Survey on Higher Education Report, 2019 Pg. 56. (accessed on 23-1-2020)

- **Admission Process:** The Common Aptitude Test (CAT), conducted by the IIMs, is the most commonly accepted national level test to qualify for admission to a post graduate programme in management in India. Apart from the IIMs, about 600+ B-Schools across the country accept CAT as the minimum eligibility to qualify for selection process. (collegeduniya.com, accessed on 22/1/2020) 2.09 lac candidates registered for the CAT examination in 2019. These candidates form the pool of eligible candidates for further selection process by the respective institutes. The practice is to filter the candidates on the basis of the candidate performance at CAT, expressed as a percentile. The higher the ranking of a B-School, the higher the minimum percentile "CAT Cut off" score required to qualify for selection process to a school of choice. Potential recruiters also consider acceptance of CAT as a qualifying test and the CAT Cut Off scores for a particular B-School as the quality benchmark of a B-School. Similar national level tests are conducted for admission to the undergraduate programmes also e.g. IPMAT.

- **Coaching & Counselling Centres:** It is the normal practice for aspiring candidates to enrol with a coaching and counselling centre for CAT preparation. Several national level centres such as T.I.M.E. and other regional centres forms this eco-system. These centres play a crucial role in the selection of a B-School by a potential student. Each

year, the coaching institutes, individually, prepare and share with their students their own analysis and categorisation of B-Schools based on a comparison of fee, the placement offers and other criteria. Thus, apart from professional credentials, these institutions play a significant role in the eco-system of a management school.

Additionally, apart from NIRF, there are several other ranking and rating agencies, viz. The National HRD Network, Business Outlook, etc. that independently carry out their assessment of the different B-Schools. These are also widely published in leading business journals and play an influential role in recruiters' and potential students' decision making with respect to their campus choice.

3.3.2(c) Regulatory Environment for Management Education

There are two apex authorities viz. The University Grants Commission (UGC) and The All India Council for Technical Education (AICTE) that monitor the quality of education and governance, to support which the following accreditations are required:

(i) NAAC rating administered by the National Assessment and Accreditation Council. The NAAC is an autonomous body under UGC that is charged with quality assurance in Higher Education Institutions (HEIs). This accreditation is given to a University.

(ii) National Board for Accreditation (NBA) is an autonomous body that is charged with quality assurance of individual programmes of all AICTE approved institutions. Institutions whose programmes do not have an NBA accreditation are not allowed to start new programmes.

Acquiring these accreditations and periodical renewal have therefore become mandatory. The Institute's MBA programme was accredited by NBA in 2019 for three years.

3.3.2(d) Industry

Most leading industries have a regular practice to recruit directly from campus. The profiles offered vary from company to company and campus to campus depending upon the institute's standing and the previous experience of the company with its students.

A new entrant in this group are the start-ups who offer exciting learning and working opportunities for enterprising students.

With the large number of management institutes, all of them promising placements, industry too has evolved its own way of differentiating and selecting campuses. Thus, in addition to the yearend campus placement rounds, companies have their own distinctive ways of experiencing the different campuses e.g. visits, organising competitions, unconventional selection processes, conducting pool campuses, etc. Many companies have made it a standard practice of recruiting only on the basis of previous internships of a student with the respective company by making a pre-placement offer.

Additionally, industry has also started participating in academic activity by offering certifications, encouraging teaching assignments by executives, offering live projects to students, etc. Industry engagement through such activity also contributes to faculty development.

Industry networking and campus relationship management have therefore become crucial for any management institute.

3.4. Competitive Analysis: Strategic Grouping and Benchmarking

The quality of education and the employability of its graduates are the twin perspectives that guide management education. As they attempt to walk these twin tracks, B-Schools are constantly caught in the paradox of rigour and relevance. The realities of a volatile industry context, a large pool of aspirational candidates and fierce competition amongst B-Schools for students and industry attention lead to continuous assessment by the various stakeholders.

3.4.1 Identifying Competition

The B-Schools in the country can be categorized into different distinct groups based on programmes offered, admission tests used, the general perception among students of quality and cost (ROI), placement record, or ranking exercises carried out by different agencies in the country.

- The older IIMs and some private B-Schools such as XLRI, SPJIMR, and MDI belong to a distinct group because of their abundant and world class financial, physical and human resources and the image they enjoy.
- The new IIMs fall into another distinct group. They also have abundant physical and financial resources, but are currently deficient in human resources and do not enjoy the same image as their older counterparts. However, they were able to gradually attract talent not only from India but from abroad as well. They are providing tough competition to reputed private business schools including Institute of Management, Nirma University, by drawing away quality MBA aspirants and top recruiters. They may eventually move to the first group or possibly create a new strategic group using their abundant resources. They also get funds for research from the government; have lower teaching loads for faculty, and also get good number of consulting assignments from both the industry and government. Many of them also have a number of student and faculty exchange programmes with foreign universities.

- B-Schools such as IMT Ghaziabad, IMI New Delhi, TAPMI, NMIMS, BIMTECH, etc. which are ranked in the range 11-20, form the strategic group that IMNU competes with. Most of these are located in cities such as Mumbai and Delhi, are relatively older, have been able to place students reasonably well, have good infrastructure, and are able to attract good talent because of consulting and research opportunities. They are also able to attract experienced visiting faculty and have better access to the industry due to their location. Some of them have arrangements with foreign universities, invite foreign faculty, and send their faculty for training abroad. Student exchange programmes with foreign B-Schools are also part of their programmes.

- B-Schools which are ranked between 26-50 also offer competition in terms of admission and placement. Some of them have location advantage which facilitates much better institute-industry interaction. Some of them also have foreign collaborators with whom they have student as well as faculty exchange programmes. Some of them also send their faculty for training abroad. They offer credible threat to IMNU in future. There are a large number of management departments in universities which have serious deficiencies in several areas and hence, do not offer any threat. They can at best be considered regional if not local players.

3.4.2 Ranking and Rating of Management Institutes

Management institute or B-School ranking surveys are an annual exercise. The primary ranking agency for higher education in India is National Institution Ranking Framework (NIRF) under the Ministry of Human Resource Development (MHRD). NIRF ranks institutions of higher learning in different disciplines viz. engineering, management, medical, pharmacy, architecture. It also ranks the Universities and Colleges. On the same lines leading business groups such as Business Today and professional associations such as National HRD Network also conduct their independent ranking exercises.

Each agency has specified parameters, data collection methods and score computing methodology Broadly speaking, the parameters relate to the different dimensions of the functioning of a management institute viz. Teaching & Learning, Research, Corporate Relations, Alumni Connect & Placement and the external perception (perception, future orientation,) Data collection is both primary (prescribed forms, personal visit, document verification) and secondary (surveys administered to different categories of stake holders).

The survey outcomes are available on public domain and they are used by the institutes themselves for brand building. Significantly, the rankings are used extensively by coaching institutes and career counselling agencies to influence institute selection decision by prospective students. All agencies compile information under headings such as "Top 10 B-Schools in India", "Top B-Schools by Region", "Top B-Schools by Placement" and share it on their websites, e.g., Mbauniverse.com, pagalguy.com, educationduniya.com.

It is therefore important to consider this dimension as we study the competitive environment as a context for IMNU's strategic plan. The rankings are thus both a constraint (they can be used to manipulate decisions by stakeholders) and an opportunity (a mirror that reflects us as others see us).

The competitive analysis for IMNU is based on a comparative performance analysis with institutions in four groups viz. B-Schools competing for selection from the pool of candidates taking CAT, institutes in Gujarat ranked ahead of IMNU in NIRF rankings, institutes ranked between 15 to 42 in NIRF rankings and institutes classified in the same league as IMNU by the coaching centres.

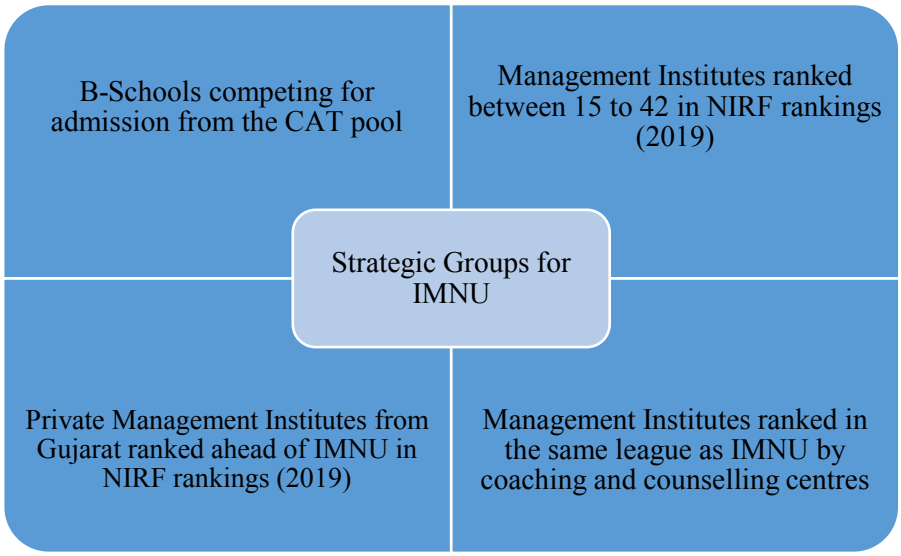


Figure 3.3: Competitive analysis: strategic grouping

3.4.2(a) B-Schools Competing for Candidates from the CAT Pool

The 600+ B-Schools, apart from the IIMs, that accept CAT as the qualifying test for further selection process are the institutes/B-Schools, IMNU will compete with for the pool of students. Seen from the opposite perspective, this is the choice available to the prospective candidates. Reliable information with respect to the total seats available with these institutes/B-Schools is, unfortunately, not available. However, based on information collected during the admission process, one is able to conclude that most of the institutes in IMNU's league adopt a CAT cut off score of 85 percentile, generally.

3.4.2(b) Private Institutes in Gujarat ranked above IMNU in NIRF Rankings

No other private management institute or university from Gujarat is ranked ahead of IMNU in the NIRF rankings. The Institute of Rural Management at Anand, ranked at number 51 with a score of 44.13 is the only other private institute from Gujarat ranked in the group of 100 management institutions. IMNU's rank in this list is 40 with a score of 47.22 points out of 100.

3.4.2(c) The 'Aspirational Group' for IMNU in NIRF Rankings

NIRF ranks the management institutes on the following parameters:

Table 3.3: Summary of the parameters and data collection methods for NIRF ranking

Parameter	Weight	Method of Data Collection
Teaching, Learning & Resources	30%	Primary Sources; data collected in prescribed forms
Research and Professional Practice	30%	• Primary data in prescribed forms • Third party sources
Graduation Outcomes	20%	Primary data in prescribed forms
Outreach and Inclusivity	10%	Primary data in prescribed forms
Perception	10%	Survey independently carried out across recruiters, professionals from industry and academics

- IMNU's scores, at number 40 in this list of 100 institutes for 2019, were as follows:

Table 3.4: IMNU scores on parameters in NIRF ranking (all scores out of 100)

Total Score	**47.22**
Teaching, Learning & Resources	76.19
Research & Professional Practice	9.25
Graduation Outcomes	72.15
Outreach and Inclusivity	64.67
Perception	6.9

Except for 'perception', all scores are based on numeric data and arrived at using a defined statistical formula. The scores, therefore, do not consider any qualitative data.

As IMNU desires to be ranked at least at number 15 over the plan period, i.e. by 2025, a separate analysis of the group of institutes ranked between 15 and 42 (total 28 Institutes), defined as 'the

aspirational group' has been compiled. The following table, gives a comparative picture of IMNU's performance in this group.

Table 3.5: Parameter-wise scores of the institutes in the 'Aspirational Group'

	Teaching, Learning & Resources	Research & Professional Practice	Graduation Outcomes	Outreach and Inclusivity	Perception
Parameter Weight	30%	30%	20%	10%	10%
Total Marks	100	100	100	100	100
IMNU Score	76.19	9.25	72.15	64.67	6.9
Highest Score	81.04	45.54	96.64	77.56	52.11
IMNU rank in the group (out of 28)	02	26	26	15	27
Institute with the highest score	Great Lakes, Chennai	IIT, Kanpur	SPJain Institute of Management & Research, Mumbai	ICFAI, Hyderabad	IIT, Madras
NIRF rank of the institute with highest score	18	22	16	26	15

Source: NIRF rankings 2019, IMNU Rank was 40.

Table 3.5 reveals that:

a. Teaching, Learning & Resources are IMNU's strength while Research & Professional Practice, Graduation Outcomes, and Perception emerge as the priority areas of work
b. High scores on Graduation Outcomes and Perception seem to play a significant role in the overall ranking of the institutes. Again, wider the difference between two institutes on these scores, wider is the difference in the overall rank.

c. The institutes ranked amongst the first ten on Graduation Outcomes in this list have all lower scores on the Teaching, Learning & Resources parameter as compared to IMNU, in some cases as much as 50% less. This may mean that teaching and learning scores do not have a direct positive influence on graduation outcomes, one of the measures for which is quality of placements and median salary.
d. Two possibilities may explain this (i) there are external influences that determine 'graduate outcomes' (ii) since both these scores do not consider qualitative data, qualitative influences that affect the relationship of teaching & learning with graduation outcomes may tend to be ignored.
e. On the contrary, the connection between the parameter of 'Perception" and "Graduate Outcomes" seems to be more direct since the institutes ranked high on "Graduate Outcomes" are also ranked relatively higher on "Perception".

3.4.2(d) Coaching and Counselling Centre Rankings

Coaching institutions and career counselling agencies such as mbauniverse.com, pagalguy.com, collegeduniya.com regularly release information on cut-off percentile and placements at the leading B-Schools. Such information is referred to regularly by potential candidates while selecting institutes for possible admission.

Table 3.6 below shows a more specific comparison of IMNU with other institutes based on data shown on a career counselling website. The website has a list of top 11 management institutes which is used as primary data for preparing this table. The list is meant for prospective students to guide their decision choices for admission. As aforesaid, similar lists are available on different sites and this is an example. *(source:collegeduniya.com. accessed on 23-1-2020)*

Table 3.6: Comparison of IMNU with other institutes

Institute	NIRF Data (2019)		CAT cut-off (percentile)	Salary Package (Rs. in lacs) of Graduating Students	
	Rank	Score		Average	Highest Domestic
IIT, Delhi	9	62.89	98	16.21	27.7
IIT, Mumbai	10	62.74	98.5	17.63	29.9
MDI, Gurgaon	12	61.89	96	19.25	28.74

IIT, Madras	15	58.4	98.2	12	22.15
SPJIMR, Mumbai	16	55.67	85+	20.9	NA
NITIE, Mumbai	29	37	97	15.82	37
TAPMI	33	48.55	87	10.22	19.4
FMS, Delhi	35	48.29	99	21	66
LIBA, Chennai	36	48.26	85	9	21
IMT, Ghaziabad	41	46.81	93	11.26	25
XIMB			94	12.44	20

Table 3.6 reveals the following about IMNU's performance vis-à-vis other institutes in the list

a. To be ranked at number 15 or 16 on NIRF rankings by 2025, means that the average salary package of IMNU students will have to increase at least by 50% by 2025, assuming the current situation of institutes at number 15 or 16 does not change.
b. If IMNU targets a phased growth, aiming to be ranked between 30 and 35 on NIRF ranking by 2022, the average salary package of IMNU will have to increase by somewhere between 15% to 25% within the next two years, once again assuming that the current situation of these institutes does not change.
c. Incidentally, high ranking on NIRF does not translate into high ranking by these agencies. Interestingly, then, this also highlights the role of the mediating agencies in influencing the decisions of prospective candidates with respect to making admission choices.
d. Are quality students (accepting the CAT cut-off score as a benchmark for quality) the answer to quality placements (defined by higher salary packages)? Are mediating agencies the starting point for influencing selection decisions? Are the quality of placements and salary packages more decisive in attracting students? If the answer to these questions is in the affirmative then these are certainly areas to be stressed in the strategic plan.

3.4.3 The Agenda for IMNU

In almost all the ranking and rating surveys, IMNU's scores on teaching and learning are above those of other institutes in its league. Teaching, Learning & Resources emerge as the strengths of IMNU across all surveys. These are differently stated under different parameters as academic excellence, learning experience and so on. The data considered for computing the

scores is about the number of faculty, the student faculty ratio, etc. which is numeric and objective.

IMNU is vulnerable on parameters relating to placements (median salary), external orientation (corporate and alumni connect, future outlook,) academic research (publications, citations) where the scores are consistently low across the different surveys.

The following specific areas for action with respect to IMNU's goal of reaching rank 15 by 2025 can be identified based on the discussion in this section.

1. Identify processes that help convert or inhibit the conversion of IMNU's strength viz. Teaching, Learning & Resources into Graduate Outcomes.
2. Contribute to knowledge creation through research
3. Ensuring graduate outcomes
4. Managing perception

3. 5 SWOC Analysis

3.5.1 Strengths

- IMNU is a constituent of a large, multi-disciplinary university.
- IMNU offers a strong 'value for money' proposition because of the affordable fee structure and good placement opportunities for its students.
- Well-equipped library resource centre and infrastructure facilities. These need to be augmented and upgraded with increasing intake.
- Low faculty attrition
- Ph.D. program to support research activities
- Integrated Five Year BBA-MBA program, currently offered by few B Schools

3.5.2 Weaknesses

- Inability to attract good calibre faculty, especially at the senior level
- Lack of exposure of some existing faculty to academic practices of top business schools
- Inadequate faculty research output

- The quality of placements and the number of recruiters coming for campus recruitment
- Maintaining low public profile and conventional engagement patterns with industry
- Inadequate international interface – students, faculty exchange, research collaboration
- Few consulting assignments by faculty

3.5.3 Opportunities

- Engage with the young faculty to give them meaningful work experiences so that the Institute benefits through their contribution
- Faculty collaboration for inter-disciplinary research and sharing of expertise
- Leverage the alumni base, across programmes, to drive the Institute-Industry interface
- Active engagement with trade associations and start-ups to create an entrepreneurial eco-system; develop entrepreneurially inclined managers
- Leverage the established credentials to attract students from neighbouring countries viz. Nepal, Bhutan, Bangladesh, Sri-lanka.

3.5.4 Challenges

- For the Institute to move to the next level, it is imperative for the institute to collaborate with top B-Schools within and outside India to promote faculty and student exchange programmes. This will immensely contribute to development of faculty and students.
- The Institute also needs to aim for more international accreditation which is a perquisite for a tie-up with any reputed foreign university.
- Enhanced industry exposure of faculty members through consulting and training
- Development and orientation of young faculty members as contributing academicians and Institute members

3.6 Strategic Goals

Based on the discussion so far, four strategic goals emerge. They are:

Goal-1: Prepare students to adapt to changing industry requirements
Goal-2: Attract, retain and engage high calibre human resources.
Goal-3: Enhanced research and publication quality and output
Goal-4: Enhance Institute & other stakeholders' interaction

In order to realize the aspiration of being amongst the top 15 B-Schools in the country, the above strategic goals need to be accomplished in the next five years. This requires setting up a clear array of objectives, and metrics for each goal. These are detailed in the following section.

3.7 Strategies, Targets and Implementation Plan

A movement upwards from rank 40 to rank 15, i.e. 25 positions in about 5 years' time will require planned, deliberate and coordinated action executed within a specified timeframe. The constituencies involved viz. the Institute and the University, need co-ordinated and mutually supportive action to identify and specify the areas for action, the pace, and the nature of initiatives. This has to be followed by concrete and decisive initiatives to ensure the movement in the desired direction at the required pace. Conscious reflection is required by seeking answers to such questions as

- How are the Institute's goals aligned with those of the University?
- If the Institute achieves its goals would it automatically have contributed to the achievement of the University goals?
- Does the achievement of the Institute goals also help reduce the weaknesses or effectively confront its areas of concern?

This reflection allows for effective alignment at different levels viz. the University & the Institute, the Institute's goals and its strategies, the strategies and the performance metrics. This is a cascading process where University goals and strategies lead to Institute goals which in turn lead to Institute strategic objectives and further operationalised through the performance metrics.

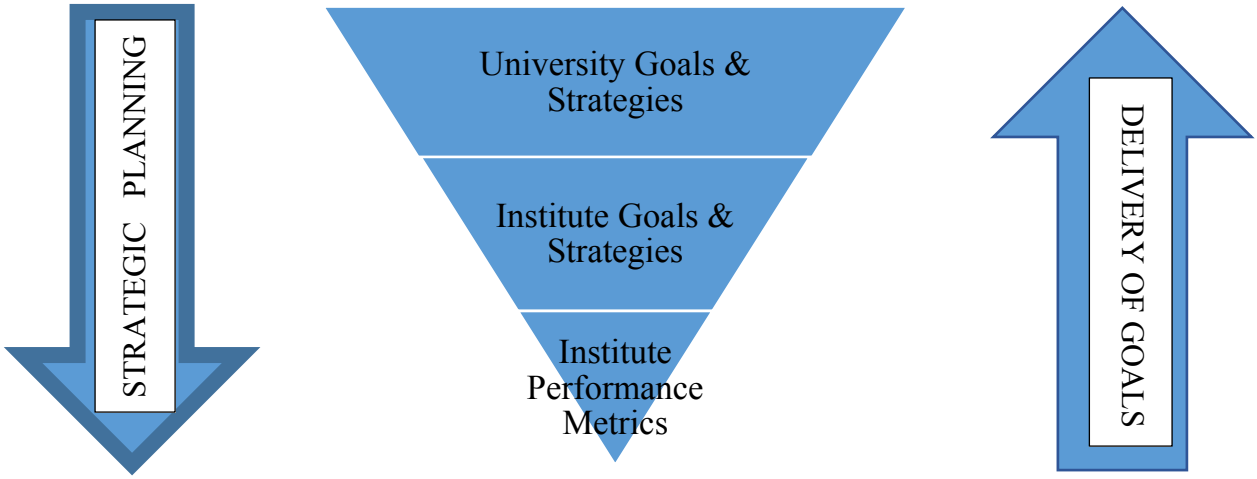


Figure 3.4: Strategic goals and target setting process for IMNU

This section of the proposed strategic plan tries to address this need. The objective here is to identify specific actions, spell out a time frame for their execution and develop suitable metrics to measure the outcomes periodically.

Goal-1: Prepare students to adapt to changing industry requirements

Strategy-1. To move towards blended learning in classrooms with opportunity to become familiar with contemporary technology

Strategy-2. To enable the development of business insight through enhanced student participation in national level competitive and learning events

Strategy-3. To support and create opportunity for experiential learning in select courses

Strategy-4. To support skill development through certification in various areas of specialisation

Table 3.7: Five-year plan to move towards blended learning

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Multimedia Cases (across programmes)	10	15	18	20	20
Simulations (across programmes)	6	9	9	9	9

On-line courses including MOOCs	2	4	6	6	6
Action Learning Projects	5	5	5	5	5

Table 3.8: Five-year plan to enable the development of business insight through enhanced student participation in national level competitive and learning events

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Regional level (students)	10%	15%	20%	25%	30%
National level(students)	10%	15%	20%	25%	30%
Organized by corporates(students)	5%	10%	10%	15%	15%
Host competitive events	1	1	2	2	2

Table 3.9: Five-year plan to increase and support experiential learning opportunities

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Proportion of field-based learning in courses	10%	10%	15%	15%	15%
Skill component of courses (workshops)	10%	10%	15%	15%	15%
Strengthen MSP & Internships	Immersion & individual learning	Immersion & individual learning	Immersion & group level learning consolidation	Immersion & group level learning consolidation	Immersion & group level learning consolidation
Live Projects (students)	10%	10%	15%	20%	25%

Table 3.10: Five-year plan to increase and support skill development through certification

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
At least 1 generic certification (Institute funded - students)	50%	60%	60%	70%	70%
At least 1 domain specific certification (students)	50%	60%	60%	70%	70%
At least 2 domain specific certifications (students)	10%	20%	30%	40%	40%
Organizing certifications by corporates, professional bodies	2	2	2	2	2

Goal-2: Attract, retain and develop high calibre human resources

Strategy 1. To regularly organise developmental training for faculty members

Strategy 2. To regularly conduct in-house developmental training for non-teaching staff and nominate them for external training

Strategy 3. To develop an agenda and design initiatives for employee engagement

Strategy 4. To work towards an increasingly diverse staffing profile.

Table 3.11: Five-year plan for organising developmental training for faculty members

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Pedagogical Workshops (TLE)(Mandays) 2 days duration	50	60	70	120	120
National conferences (number)	20	25	30	30	30
International Conferences (number)	2	4	6	8	10
Workshops/programs conducted by other organisations (Man days), 3 days duration	30	40	45	50	60

Table 3.12: Five-year plan for training and development of teaching & non-teaching staff

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
In-house developmental training for non-teaching staff (mandays – 2 days duration)	20	20	30	30	30
External Training for non-teaching staff (mandays – 2 to 3 days duration)	10	10	10	10	10
Sponsor certification/skill acquisition (staff members)	2	2	5	5	5

Table 3.13: Five-year plan for implementing engagement initiatives for teaching and non-teaching staff

Metrics/Year	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Design and implementation of initiatives for change	-	Conduct organisation-al climate study	Develop agenda, design and introduce change initiatives	Full-fledged implementation – 1st cycle	Full-fledged implementation – 2nd cycle and review

Table 3.14: Five-year plan for having an increasingly diverse staff profile

Metrics/Year	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Enhance faculty diversity (regional, gender, domain expertise, industry experience)	Monitor and review periodically, identify gaps and initiate appropriate action to correct imbalance, if any.				
Inter-institute teaching and research assignments (faculty members)	-	2	2	5	5
Faculty with experience of teaching in foreign universities	-	1	2	3	3

Goal-3: Enhancing research and publication quality and output

Strategy 1. To increase the publications in A and B category journals

Strategy 2. To encourage and facilitate the initiation and completion of research projects by faculty

Strategy 3. To create opportunities for and promote inter-disciplinary research

Strategy 4. To have an incremental rise in NIRF scores on "Research and Professional Practice"

Table 3.15: Five-year plan for increasing publications in A & B category journals

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Paper writing clinics (man days) 1-day duration	50	60	70	80	100
Scopus indexed publications	30	35	40	45	45
B & C category journals	4	6	8	8	10
A category journal	1	1	2	2	3

Table 3.16: Five-year plan to facilitate initiation and completion of research projects

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Workshop on preparing project proposals (man days) 1 day duration	25	30	35	40	50
Number of Major projects	5	6	6	7	8
Number of Minor projects	2	3	3	4	5
Number of externally funded projects	1	2	2	3	3

Table 3.17: Five-year plan for promoting inter-disciplinary research

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Case writing workshops	1	1	1	1	1
Inter-disciplinary teaching of courses (faculty)	-	4	6	8	10
Writing inter-disciplinary Cases (no of cases)	2	4	4	6	6

Table 3.18: Five-year plan to have an incremental rise in NIRF scores on "Research and Professional Practice"

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
MDP (Mandays)	30	40	50	60	60
Executive Diploma Programme/ Long Term Training (Company)	2	4	5	6	6
Consulting (mandays)	10	20	30	40	50
NIRF Score on "Research & Professional Practice"	10	15	20	25	30

Goal-4: Enhance Institute and stakeholders' interaction

Strategy 1. To engage in more purposeful and value adding engagement with industry

Strategy 2. To increase alumni participation and engagement with alumni events

Strategy 3. To increase the 'perception' score in NIRF rankings each year

Strategy 4. To increase the 'graduate outcomes' score in NIRF rankings each year

Table 3.19: Five-year plan for value adding engagement with industry

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Co-teaching (events – at least 1 module in a course)	2	4	6	8	10
Joint research (published papers)	-	1	2	3	4
Industry funded chair positions	-	-	1	1	2

Table 3.20: Five-year plan for increasing alumni participation and engagement

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Number of alumni meets (or other local events) and attendance	3-5	3-5	5-7	5-7	5-7
Attendance at alumni day, across programmes (incremental rise)	10%	12%	15%	18%	20%
Participation in decision making bodies	5	10	15	20	25
Alumni involvement in teaching & other Institute activity (full courses, guest faculty, seminars, admissions)	20	25	30	35	40

Table 3.21: Five-year plan for increasing 'Perception' score in NIRF rankings

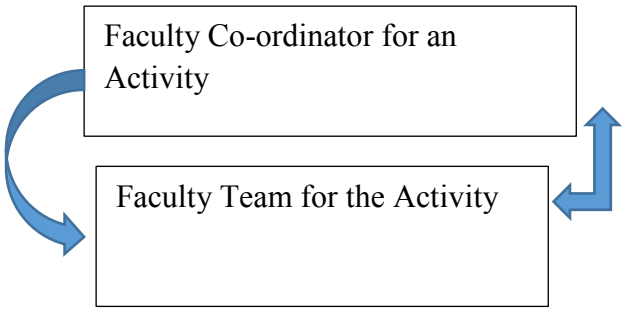
Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Student experience on campus	Review dining & mess facilities	Conduct formal research into the quality of experience	Introduce & implement change initiatives	Establish revised systems and processes	Review experience
Participation in programmes with coaching & counselling centres/sponsorship (no. of events)	-	2	3	4	4
Enhanced Institute visibility (participation, organising, /sponsorship of events)	-	1	2	2	3
NIRF Score on "Perception"	9	12	15	18	20

Table 3.22: Five-year plan for increasing "Graduate Outcomes" score in NIRF rankings

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
% of repeat companies on campus (% of total)	50%	55%	60%	65%	70%
Incremental growth in median salary (annual CTC Rs. in Lac)	8.5	10	12	15	17
PPOs for IMBA and MBA programmes (student %)	-	10%	15%	20%	25%
Appropriate infrastructure to improve recruiter experience on campus	Separate room with ICT for online interviewing	Group discussion rooms & guest waiting area	Interview rooms (4)	-	-
Rise in score on graduation outcomes	75	75	77	80	82

3.8 Monitoring and Alignment: Structure and Systems

Monitoring the implementation of the plan will be done both at the apex level in the Institute and the co-ordinating level by the respective chairpersons. Broadly speaking, the Institute has a defined and established administrative framework for managing the different activities within the Institute. This framework is a two-tier set up as shown below – Figure 3.5.



At the beginning of each academic session committees are appointed for the various activity areas. The same set up will hold responsibilities for monitoring and reviewing progress for the achievement of the different goals set under the strategic plan 2020-2025.

Review meetings will be held half yearly and annually as per the structure laid down by the Director and shown in the figure given below:

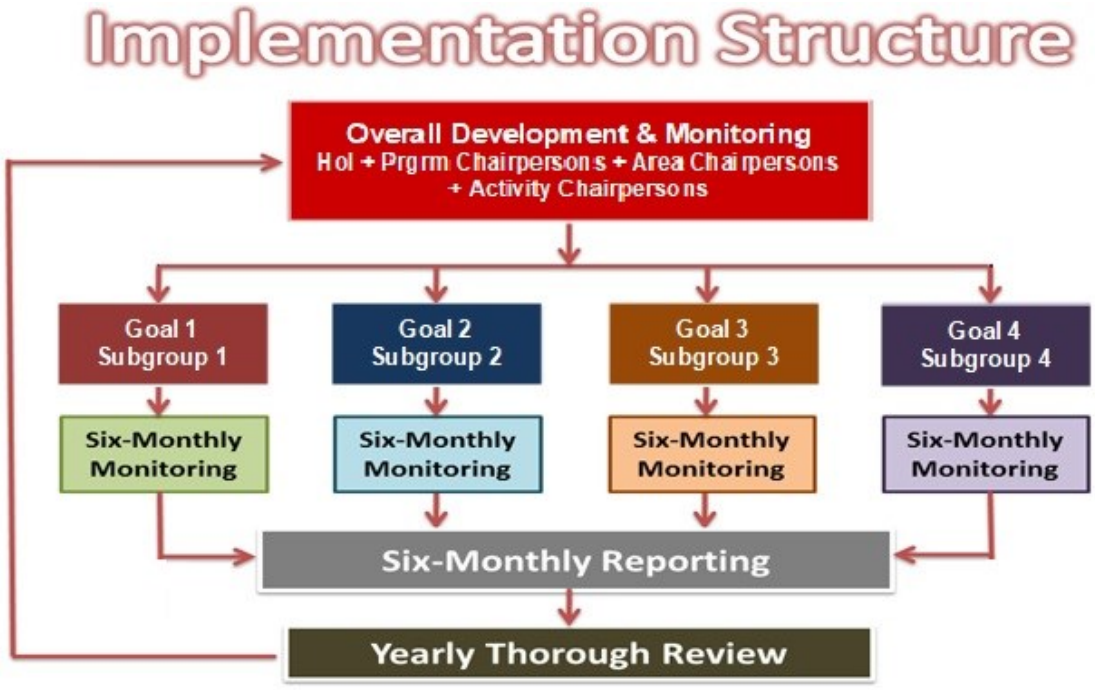


Figure 3.6: Closed-loop monitoring of institute strategic plan

Table 3.23: Review & monitoring of the strategic plan

Theme	Monitoring and Review by	Operational Responsibility	Operational Coordination
Academic Goals	Director, Programme and Area Chairpersons	Respective Programme Chairperson for the Different Programmes	MBA Monitoring Committee
Student Development Goals	Director, Programme and Area Chairpersons	Student Activity Coordinators	Various Committee Members
NIRF Outcome Goals	Director, Programme and Activity Chairpersons	Head (Corporate Relations) and Faculty Coordinator (CRC)	Corporate Relations Cell. Faculty Advisory Committee on Placements

Research and Development Goals	Director, Programme and Activity Chairpersons	Coordinator, IQAC	All Individual Faculty Members
Faculty Development Goals	Director, Programme and Activity Chairpersons	Co-ordinator, IQAC	
Extension Activity Goals	Director, Programme and Activity Chairpersons	MDP Chairperson	MDP Committee

At the start of the plan period, a committee of Activity Chairpersons, will develop a detailed structure defining the responsibilities, reporting system and structure and a calendar for the same.

Chapter – 4

Strategic Plan of the Institute of Pharmacy

4.1 About the Institute of Pharmacy

4.1.1 Preamble

Strategic planning is an important approach to educational planning in modern world. Strategic planning identifies the future direction of an institution and maps out the way, the direction will be reached. A strategic plan in the education sector provides guidance on how to run an education system which is constantly evolving keeping in mind the national development perspective. Strategic planning ensures better use of financial, physical and human resources and establishes an organized system of management that enables the management to lead the organization strategically. It enables the organization to identify its strategic issues and helps the administrators to establish priorities and how to deal with them. Strategic planning enables the management to identify the system's strengths and weaknesses. It enables the organization to build teamwork and expertise from within and encourages proactive management. It provides a framework for developing and implementing strategies through-out the organization. It leads in better communication between the organization and the community. It can assist in the effective management and prioritization of limited resources, encourage institutional unity around agreed strategies and give a clearly defined path of action. It enhances the Institutional ability to respond thoughtfully and quickly to new challenges. It strengthens the Institutional ability to choose priorities based on self-evaluation and understanding. Strategic planning is a process which helps the leadership team to evaluate the past, understand the present and predict the future. Strategic planning offers an opportunity to identify how it will commit its resources over the long term in order to accomplish its mission.

4.1.2 About the Institute of Pharmacy

Institute of Pharmacy was established in the year 2003 under Nirma University with the aim of developing competent professionals in the field of pharmaceutical sciences.

In a short span of time, it has become one of the leading institutions in the country, offering pharmaceutical education at the undergraduate, postgraduate, doctoral and postdoctoral level. The Institute has also initiated an Executive Diploma Programme in Pharmaceutical Management for working professionals.

The Institute has shown its presence at the national level by being ranked 5th in National Institutional Ranking Framework (NIRF) by the Ministry of Human Resource and Development (MHRD), Government of India in the year 2016 and for subsequent years also institutes has maintained its ranking in the top 21 institutes.

The Institute has received grants of more than Rs 45 million from various government agencies, such as BRNS, RSSDI, DST, DBT, ICMR, SAC-ISRO, AYUSH, GSBTM and GUJCOST for research and development. The DST-FIST grant worth Rs. 5.5 million for the purposes of infrastructure development was awarded to the Institute for the year 2015-2020.

The Institute has a two-storied animal house facility registered with the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Government of India. Besides, there is also a medicinal plant garden “Nirma Herbal Wealth”, having an area of 3356.5 square meter. with around 150 genera and 500 plants.

Nirma University and its constituent institutes undergo accreditation and ranking periodically, which stimulate the academic environment for promoting quality of teaching, learning, and research. This also encourages self-evaluation, accountability, autonomy, and innovations in higher education. The University is accredited with “A” grade by National Assessment and Accreditation Council (NAAC) in its 2nd cycle. According to the National Institutional Ranking Framework (NIRF, India Rankings 2020) by the Ministry of Human Resource Development, the Institute of Pharmacy has been ranked 17th among Pharmacy Institutions of the country.

Institute of Pharmacy, Nirma University bagged the FIRST RANK amongst the Pharmacy Colleges in Gujarat state with FIVE STAR rating and overall CGPA of 4.51 in Gujarat State Institutional Rating Framework (GSIRF) 2020 ratings announced on 21st February 2020.

Institute of Pharmacy Nirma University, Ahmedabad received NBA (National Board Accreditation) for its UG Pharmacy (B Pharm) programme for a period of three years 2019 to 2022.

4.1.3 Institute's Enduring Commitments

✧ **Vision**

Striving to excel in pharmaceutical education, research and innovation to develop outstanding professionals catering to the healthcare needs of the human kind.

✧ **Mission**

The institute aims to develop employable students, researchers and entrepreneurs by inculcating critical thinking, problem solving ability, ethical values and leadership skills. Institute provides vibrant environment for continuous learning by strengthening industrial collaboration for developing competent professionals.

✧ **Core Values**

➔ Student Centricity

- Emphasize on holistic development of the students through extra and co-curricular activities
- Pursue student-centered teaching-learning process
- Use of modern tools for online teaching and assessment
- Focus on employability and entrepreneurship
- Nurture lifelong learning skills
- Use of ICT tools and technology

➔ Contribution to the Society

- Align curricula and pedagogy to cater to societal needs and demands
- Conduct applied research to address organizational and societal problems

➔ Quest for Academic Excellence

- Develop and retain outstanding employees
- Use inter-disciplinary approach in the teaching-learning process and research
- Think creatively and do relevant research
- Establish strong linkages with the industry, academia, research organizations, alumni and civil society

✧ **Aspiration**

Institute is committed to provide Quality Education & Research Environment and aspire to achieve All India Rank in Top 10 Pharmacy Institutes of India as per NIRF Ranking System.

4.2 Environmental Assessment and Analysis

4.2.1 International Scenario

Past few decades have witnessed the shift in pharmacy profession from dispensing and manufacturing to patient care which has also reflected in the changes in the curricula of pharmacy courses in various developed countries. This also now spreading to various developing countries where the education is now more clinical oriented.

Qualitative data from the 2013 FIPEd Global Education Report indicates that there is a global shortage of pharmacist academics and of practice-based supervisors/preceptors.[1] In developing countries, there is an increasing trend towards adopting clinical based education, which is characterised by having a considerable number of clinical preceptors. In parts of Middle East, Africa, and countries like Bangladesh, India, Pakistan and Thailand, they are changing their entry-level qualification to B Pharm. Yet, many of these regions and nations do not have sufficiently trained and available clinical pharmacists who are competent to act as preceptors.

In developed countries like USA, the pharmacist education and practise is closely resembling with the physicians of US. The curriculum comprises practice based education as per the standards given by "Accreditation Council for Pharmacy Education" which provides the standards of curriculum. The education of pharmacy involves training and understanding of various aspects of pharmacology, pharmacotherapy, medication safety, pharmacokinetics, toxicology, biostatistics, medicinal chemistry, ethics, law, business management etc. Additionally, pharmacists are trained in clinical aspects and patient care by providing rotations in hospitals.

As the pharmacy curriculum evolved to become more clinical, some countries have employed more clinical academics who may be working in practice but spending some time teaching and some time researching. However, in some countries including many developing countries, all academicians have been required to have PhD degree and be active in both research and teaching. There is a dilemma though, exemplified in the current UK situation, as the curriculum has become more clinical and more integrated, many leading universities have appointed academics to teaching-only contracts and fewer people are coming into academia via more traditional routes; leading to there being too few people to become full professors and associate professors in clinical pharmacy, social pharmacy and pharmacy practice.[1]

4.2.2 National Scenario

Pharmaceutical education is a dynamic professional education for the development of the country, individual and with a view to protect public health. The beginning of pharmaceutical education in India was initiated at the Banaras Hindu University in 1932 by Professor M. L. Schroff. From there, it has been a long journey of almost 85 years for this profession in this country. The enactment of the Pharmacy Act 1948 established the statutory regulation of pharmacy institutions in India. The Pharmacy Council of India (PCI) was established in 1949 under "Ministry of Health" to establish the minimum qualification required to be a pharmacist. The PCI is actively working towards strengthening and upgrading the curriculum to produce a competent workforce that is able to meet the growing demands of the industry & community. Around 1200 pharmacy colleges are offering Pharmacy education across the India.

Pharmacy education in India is taught as an industry- and product-oriented profession with a focus on the basic sciences. A variety of pharmacy degree programs are offered such as diploma

in pharmacy (D Pharm), Bachelor of Pharmacy (B Pharm), Master of Pharmacy (M Pharm), Doctor of Pharmacy (Pharm D), and Doctor of Philosophy in Pharmacy (PhD). The entry point for D Pharm, B Pharm and Pharm D programs is 12 years of formal education in the sciences. The B Pharm involves 4 years of study in colleges affiliated with universities or in a university department. Students holding a B Pharm degree can earn an M Pharm degree in 2 years, of which the second year is devoted to research leading to a dissertation in any pharmaceutical discipline, for instance, pharmaceutics, pharmacology, pharmaceutical chemistry, pharmacognosy, regulatory affairs, quality assurance etc. The vast majority of pharmacists with a B Pharm degree normally seek positions (such as production, quality control, and marketing) with the thriving pharmaceutical industries in which services are well defined and industrial pharmacists are well remunerated. They also have the opportunity to be appointed to drug regulatory agencies or quality control laboratories by the state or central government. M Pharm degree holders in any discipline including an M Pharm in clinical pharmacy may join industries in any of the above positions. Many M Pharm graduates entering the pharmaceutical industry choose positions in areas such as research, formulation development and clinical trials. Additionally, they have the opportunity to work in the academic area, typically as researchers or faculty members. Pharmacists with a Ph.D. mainly work in academia and in the research & development section of pharmaceutical industries.

There are over a million pharmacists in India with around 55% of them in the community, 20% in hospitals, 10 % in industry & regulatory and 2 % in academia in India. To meet the varying needs of the profession at different levels, the following pharmacy programs are offered in India today: Diploma in Pharmacy, Bachelor of Pharmacy, Master of Pharmacy, Practice based Doctor of Pharmacy (Pharm. D.), and Doctor of Philosophy in Pharmacy (Ph.D.). Currently D. Pharm. is the minimum qualification for becoming a pharmacist in government service all over India, except in Punjab. In Punjab, the minimum educational qualification for pharmacist post is Bachelor of Pharmacy. In addition to Punjab, the Directorate of Medical Education & Research under the health ministry of Haryana has also mandated B. Pharm as the basic qualification for pharmacist posts in the medical education institutions under the directorate.

If the qualification is raised from diploma to degree, it will help the pharmacists to do his duties more efficiently and in a more commendable manner because he will have better information regarding overdoses, incompatibility and contra-indications than a diploma holder generally has.

As professionals, with in-depth knowledge of drug compositions and formulations, pharmacists are a critical cog in the healthcare wheel of any country. But, the pharmacy education in India has never been part of paramedical teams and hence, its development has been quite unique and quite different from rest of the world. We rarely see pharmacists interact with patients effectively. Their role is limited to storage and dispensing of medication in clinical settings and formulation and compounding in industrial settings. The role of pharmacists in society has never been given its due place and did not grow due to comparatively less paying jobs in industry. Pharmaceutical science is a professional subject like medicine, engineering, agriculture and veterinary sciences but it is not included in the curriculum of civil services examination (Union Public Service Commission (UPSC) and State Public Service Commission (SPSC). Also, we must train pharmacists towards their clinical and patient-centric responsibilities as well to raise the standard of Pharmacy profession in India.

In order to stand up to the global standards, a comprehensive and more focused revamp is necessary in India.

4.2.3 State Scenario

Gujarat is a State where the higher education system has played a major role in inspiring the minds of the youth both during the days of freedom movement and since independence. The higher education system of Gujarat has created national public figures in the social and educational arena. Gujarat has participated actively in the race to make the task possible by setting its goals on educating each and every citizen of the state and also to strengthen the education status and situation of the state.

The traditional concept of Gujarat is, it's bent towards entrepreneurship, which is considered to be an inborn talent among the Gujarati community, and not for the ability to develop professionally trained human resources. This image is however changed soon as the Government of Gujarat has embarked on a focused mission to make Gujarat an Education Hub for the country. The efforts are directed not only towards attracting students from other states within the country but also from various other countries. Gujarat state at present has a total number of 23 state universities, 3 central government universities, 2 Private Aided universities and 32 Private universities. Apart from this, Gujarat boasts of 6 institutes of national importance, including IIM A, IIT, SVNIT, NID, PRL and EDI.

The State of Gujarat has noticed a great change in the industrial sector and market oriented economy in the last two decades. The State Govt. has developed the special industrial policy to cope up the changes and demand of the sector. All such industrial developments have created a demand for new types of skills, which the education sector is expected to fulfil. Accordingly, new pharmacy colleges have emerged. Today, the state has a total number of 68 government and self-finance colleges offering B. Pharm program and 54 government and self-finance colleges offering M. Pharm program in different specializations such as Pharmacology, Pharmacognosy, Pharmaceutics, Pharmaceutical Technology, Pharmaceutical Quality Assurance, Pharmaceutical Chemistry, Drug Regulatory Affairs etc.

4.2.4 Educational Scenario

Since the times of Nalanda and Takshashila or even earlier, the history of higher education in India recognised the holistic aspect of all human knowledge and enquiry as fundamentally connected. The holistic nature of knowledge as imparted through a broad and interwoven education is an important factor for the preparation of students for life, work and to be an effective member of society. In this context, the vision of India's new education system has accordingly been crafted to ensure that it touches the life of each and every citizen, consistent with their ability to contribute to many growing developmental imperatives of this country on the one hand, and towards creating a just and equitable society on the other. When speaking of higher education, the government is planning to bring in a single regulator - National Higher Education Regulatory Authority (NHERA). With this initiative, all higher educational institutions will become multi-disciplinary and will be able to facilitate high-quality teaching, research, and service to the learners. It will significantly simplify the Indian education sector, which currently comprises over 50,000 higher education institutions, including 907 universities.

In Masters, more focus would now be given on research, as currently in Indian universities, the courses lack research-oriented curriculum. Doing so, will nurture the research skills of students. In fact, students will also be able to opt for an integrated five-year bachelor's/master's program apart from the one-year master's program. This will be beneficial for those who have already completed a four-year program.

According to National Education Policy 2020, a new vision and architecture for higher education has been envisaged in the Policy with large, well-resourced, vibrant multidisciplinary

institutions. The current 800 universities and 40,000 colleges will be consolidated into about 15,000 excellent institutions.

In higher education, a restructuring of higher education institutions with three types are proposed-

Type 1: Research Universities - equal focus on research and teaching

Type 2: Teaching Universities - primary focus on teaching with significant focus on research

Type 3: Autonomous degree-granting colleges- almost exclusive focus on teaching.

Also, many new initiatives in higher education are proposed like

- Mission Nalanda and Mission Takshashila launched to catalyze new architecture
- All higher education institutions to become multidisciplinary institutions, with teaching programmes across disciplines and fields
- 3- 4 year undergraduate degree with multiple exit options
- Flexible Master degree programmes
- Choice Based Credit System to be revised and improved to allow for flexibility and innovation
- Open and Distance Education-ODL
- National Mission on Education Through ICT
- Inter-University Centre for International Education set up within selected Indian universities
- Faculty recruitment and development, career progression, compensation management to be part of every Institutional Development Plan
- All higher education institutions to become autonomous self-governing entities
- National Higher Education Regulatory Authority - only regulator for all higher education including professional education
- Accreditation as basis for regulation - National Assessment and Accreditation Council - oversee and develop an ecosystem of Accreditation Institutions
- Professional education to be the integral part of the higher education system
- The National Research Foundation will significantly expand research and innovation in the country. Annual grant of Rs. 20,000 crores - increased progressively over the next

decade. The Foundation will have four major divisions to start with - Sciences, Technology, Social Sciences, Arts and Humanities

- National Repository on Educational Data

Prime Minister Mr. Narendra Modi, on 17th of October, 2017, announced about World-Class Universities (WCU) to give Rs. 10,000 crores to 20 varsities across India. Hence, it is recommended that the WCU should be established.

As per the NKC recommendations, there is a need to establish 1500 more universities to provide higher educational opportunities to all.

Through schemes, the government will provide nearly 75% financial assistance on the total cost of the academic course, which will be approximately $4000 worth of annual scholarship. The government, in order to promote India in foreign nations, has also raised the scholarship amount to INR 25,000 and INR 3,000 a month for boys and girls respectively, under the 'Prime Minister Scholarship Scheme'.

Fortunately, in recognising the need for an overhaul in the education system and building a talent pool, the government is also introducing measures to meet this goal. For instance, the Life Sciences Sector Skill Development Council (LSSSDC), has been established by and for the life sciences sector in India, to address the skill gaps across functional areas and levels in the sector, by helping to generate a sustained stream of high-quality skilled individuals.

4.3 Competitive Analysis: Strategic Grouping and Benchmarking

4.3.1 Strategic Grouping

Today there are more than 250 private universities and more than 4289 pharmacy institutions disseminating pharmaceutical education in India (http://www.pci.nic.in/). In Gujarat itself, there are more than 60 private universities and 65 pharmacy institutes. In the country, there are many government and private pharmacy institutes like Jamia Hamdard - New Delhi, Institute of Chemical Technology - Mumbai, Panjab University - Chandigarh, BITS – Pilani & Ranchi, Manipal College of Pharmaceutical Sciences - Udupi, DIPSAR - New Delhi, SRM Institute of

Science and Technology - Tamil Nadu, JSS College of Pharmacy – Ooty & Mysore have come up in a big way offering technical programmes in pharmacy education.

With an insight to promote excellence in pharmaceutical education and to groom young students to meet the diversified challenges in the area of pharmaceutical sciences, Institute of Pharmacy was established in 2003 and has been ranked 21st top Pharmacy Institute, among Pharmacy Institutions of the country by the Ministry of Human Resource Development, Govt. of India in its National Institutional Ranking Framework (NIRF) in 2019.

In comparison to various equivalent self-financed institutions (SFI) in Gujarat, Institute of Pharmacy, Nirma University is at the 1st position. However, the Government funded Institutes like L M College of Pharmacy - Ahmedabad, Department of Pharmacy, M S University - Baroda are major competitors for pharmacy programmes because of either nominal fee, establishment before fifty years or high-end research facilities. They also have influential and experienced faculty members, TIFAC-CORE for industry-oriented research, Atal Incubation Centre-Atal Innovation Mission (AIM), NITI Aayog, Focused PG Centre etc.

Figure 4.1: Steps for competitor analysis

4.3.2 Components of Benchmarking Value Cycle

'Benchmarking is a process to determine who else does a particular activity the best and emulating what they do to improve performance.' With detailed description, it is defined as 'the continuous action of systemic comparing a process, a product or a service with a similar activity, known as being the best in that field, with the purpose of establishing ambitious but real

improvement objectives and actions so as to become and keep the number one position among the best within a reasonable period of time.'

Benchmarking with appropriate peers, at a state, national and international level enables the institute to compare and evaluate its performance, monitor academic and administrative standards, compare good practices carried out by reputed institutions. This, in turn, helps an institution to make quality improvements to become and keep the number one position among the best within a reasonable period.

Figure 4.2: Components of benchmarking value cycle

While developing the Strategic Plan, different types of Institutes were studied, e.g. (i) Government Pharmacy Institutes, (ii) Self-Financed Pharmacy Institutes, and (iii) Foreign Universities. After studying some of the leading Institutes in these categories, it was decided to benchmark the following Institutes:

➢ Government Pharmacy Institutions

(i) Institute of Chemical Technology - Mumbai

Benchmarking: Emeritus Professors, Adjunct Professors, Publications, Patents, Industry and government projects, Alumni group, High end research facilities

➢ Self-Financed Pharmacy Institutions

(i) Manipal College of Pharmaceutical Sciences

Benchmarking: QS world ranking, International collaborations, Faculty strength, International students, linkages with Pharmaceutical industries, student empowerment

(ii) Birla Institute of Technology & Science (BITS) - Pilani and Ranchi

Benchmarking: Modular and Flexible Curriculum, Elective Courses and Research based consultancy

We would like to benchmark Manipal University, which is also a private university like us, offering graduate, post-graduate and doctoral level programmes. There are several reasons for benchmarking it which are as follows:

● **Faculty strength:** There are more number of faculty in each department, thereby the overall teaching workload and administrative duties are reduced. There are several experienced and senior professors who are dedicated to research.

● **Full time PhD student strength**: Number of PhD students are also high, which also aids into overall quality of research. They are actively involved in research and publish papers in good impact factor journals and have filed many patents.

● **Academic programmes:** They have three different types of PG Programmes; 2 years, 3 years and 6 years. So, PG student strength is comparatively much more and due to that their placement data are also better in terms of Median salary of placed graduates.

● **Collaboration and linkages:** They have collaborations and linkages with many industries and they carry out industry based projects, consultancy and sample testing work.

● **Budget allocation:** A large amount of the budget is allocated for research every year, which enables the faculty to carry out good quality projects and dissertation work.

● **High end laboratories:** A well-equipped laboratories are their major strength and they update and purchase newer instruments every year from the grants as well as from institutional budgets.

● **Early establishment:** The Institute was established fifty years before and so get the advantages of the same.

➢ Foreign University

School of Pharmacy, University of Queensland

Benchmarking - QS Ranking of 25th as per subject and QS Global World Ranking of 47th as University, Teaching and research facilities, Interactive dispensing and counselling spaces, high end research laboratories, Innovative private and group study spaces.

In view with the above benchmarking for different activities, we would like to position ourselves amongst the top ten pharmacy institutions of the country imparting the best of the education and professional skills to the students within a span of ten years. We intend to grow at such a level in the future that we can benchmark the international institutions and compete with them and at the same time all the current Indian institutes take our institute for benchmarking. We would like to position ourselves to a level wherein we can attract students not only from India but also from other countries.

4.4 SWOC Analysis

SWOT analysis is commonly used for evaluating Strengths, Weaknesses, Opportunities and Threats. Being an academic institute, we have considered threat as a challenge. SWOC analysis is designed to check the strategic position of our institute in its fields of education and operation, and because of its methodological simplicity.

SWOC analysis is divided into two parts: the internal environment where strengths and weaknesses are identified, and the analysis of the external environment, where opportunities and challenges are determined (as shown in Figure).

➢ Strengths

- Enthusiastic, dedicated and qualified faculty members with diversified skills, innovative/interdisciplinary research and high impact research publications and granted patents
- Major research projects granted by in-house and external agencies
- Good infrastructural (ICT, Wi-Fi enabled) and learning

resources facilities

- NBA and NAAC accredited and Good ranking in NIRF and GSIRF
- Well defined and transparent management, administrative and institutional policies
- Rigorous teaching, learning and evaluation methodologies
- Continuous staff development through deputation and training by national and international experts
- Strong student and Alumni support services for overall progress and development
- Vigorous/Dynamic feedback system from all the stakeholder and students.

➢ Weaknesses

- Lack of high-end instrument facilities
- Lack of functional international and industrial collaboration and linkages
- Fluctuation in the number of admissions of PG students
- Limited availability of research time

➢ Opportunities

- MOUs and research linkages
- Consultancies from Pharmaceutical Industries
- Expansion of Research facilities
- Rigorous Alumni involvement
- International ranking
- E-education
- Interdisciplinary projects with other institutes

➢ Challenges

- Collaborative Research grants
- Patents
- Strong industrial network for more consultancies

4.5 Strategic Goals

A strategic plan is the organization's roadmap. So, the ability to adequately determine the position of an organisation in its external environment, i.e. in terms of other entities in the sector, is essential for strategic decision making. It helps entities integrate their resources and activities and determines the success and sustainability.

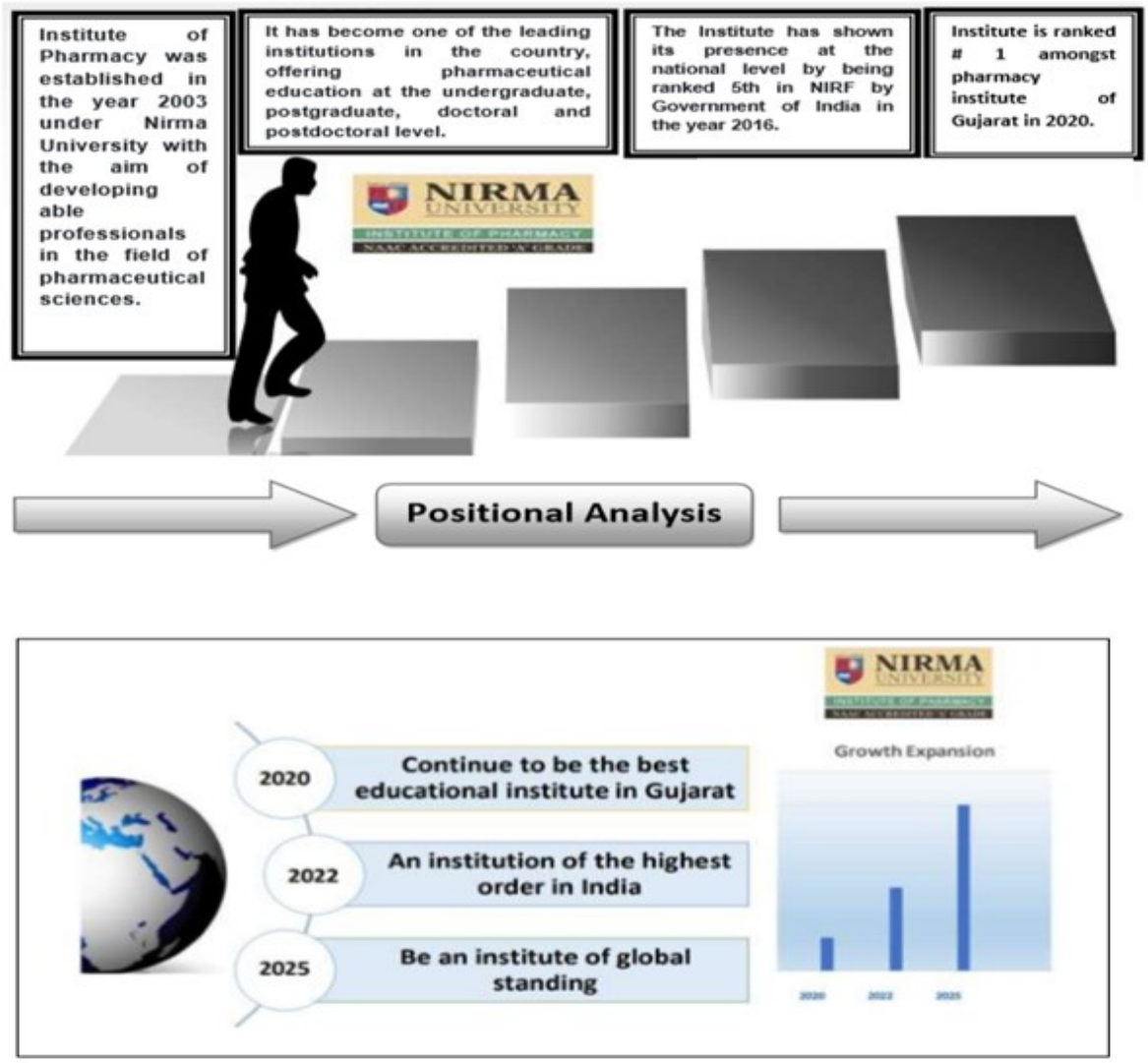


Figure 4.3: Positional analysis

4.6 Integrated Themes

Integrated themes can be perceived as a strategic approach to achieve synergy through unification of developmental goals across varied departmental groups, processes, and activities that the institute seeks to accomplish.

Following are the integrated themes which delineate the strategic planning

- Dynamic and democratically conceived curriculum with defined competencies to ensure that our students have the skills needed by emerging pharmacists in the twenty-first century.
- State-of-the-art facility with cutting edge tools and sophisticated instrument Laboratory to fuel young researcher's innovations and collaboration with other research supporting bodies.
- Healthy Faculty Student Ratio
- Multi-pronged approach to develop industry ready students
- Assembling and Enriching library collections
- Engendering inclusivity
- Ranking and Accreditation (National as well as International)
- Be a community of highly accomplished and well supported academic and professional staff
- Achieving new milestones in terms of publications
- Boosting the employment prospects
- A top-tier and an internationally recognized research institute
- Synergize the partnership with local industry, government and other research organizations
- Fostering a vibrant, creative and positive environment
- Embedding social-emotional learning to support student's holistic growth

4. 7 Strategic Goals, Objectives, Metrics & Implementation

Goal-1: To be top 10 Pharmacy Institute in the country

Strategy-1. Recruitment of eminent persons across globe to introduce new programs as well as to enhance quality of teaching and research

To identify renowned academicians, researchers, industry personals, etc. from various parts of world and to recruit them. To provide individual laboratory space for faculty members, flexi hours, exclusive teaching and researching work culture and to provide various incentives to performers.

To identify Foreign Professors for Short tenure teaching assignment every year as visiting faculty.

To identify senior researchers from industries and recruit them as Professor emeritus/Adjunct Professor.

To improve Student Faculty Ration from 1:20 to 1:15 by recruiting full time faculty members.

To improve quality of teaching and research, Cadre ratio will be improved and will achieve as 1:2:4 as Professor: Associate Professor: Assistant Professor.

Strategy-2. Training to faculty members to enhance expertise

To train existing faculty members by deputing them for various types of training including industrial and national laboratories, attending STTP/FDP/refresher courses, etc.; deputing them to attend and interact with eminent personalities in various national and international conferences.

Strategy-3. Curriculum improvements to enhance accreditation grading

To improve quality of curriculum by referring various top universities across world and including current and latest topics in curriculum. Also, to do tie up with top universities to offer their courses as online or mooc courses to improve quality of students.

Strategy-4. Student Training / Support to improve their skill and employability

To strengthen industrial collaboration for developing competent professionals for skill development and employability of students. To improve performance of students in competitive exams.

Table 4.1: Five yearly targets for faculty training and student internships

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Deputation of faculty members for training to impart new methodology in teaching	2	2	2	2	3
Deputation of faculty members for industrial training to improve their understanding about current scenario and to implement them at Institute	6	7	7	8	8
Deputing faculty members for attending National Seminars/ Conferences for interaction with eminent scientists across country and to collaborate with them for interdisciplinary research	18	19	25	25	25
Deputing faculty members for attending International Seminars/ Conferences. Such visits will help for international collaboration and to improve Institute MoUs with top ranking universities across globe.	1	1	2	3	3
Deputing faculty members for attending STTP/FDP (External) on specific topic of interest.	2	2	2	2	3
Invitation of Foreign faculty members as Visiting Professor	2	2	2	3	3
Meetings with Institute Advisory committee.	1	1	1	1	1
Organization of Orientation program/ refresher program for newly recruited faculty members	1	1	1	1	1
Percentage of deputation of students for internship/training in national institutes / MNCs	-	25%	30%	40%	50%
Percentage of students qualifying the competitive exams	10%	15%	20%	25%	30%

Goal 2: To Promote and strengthen research activities

Stretagy-1. To enhance number of research grants, projects and consultancies from various national/international agencies and industries

Stretagy-2. To increase publications in high impact journals

Faculty members will be motivated to publish research papers in high impact factor journals by giving them some incentives, awards, etc.

Strategy-3. To increase patent filing by faculty members

Strategy-4. To increase Idea lab projects and research activities

Strategy-5. To establish Centre of Excellence in Cancer Research

Center of excellence in "Cancer Research and Drug Development" will be established. Center of Excellence will focus on drug discovery and development of new chemical entities, formulation, development and standardization of new drug delivery system, identifying novel therapeutic targets and treatment for the disease identified under thrust areas.

Given the facilities and infrastructure, the faculty members will focus their research on drug discovery and development of new chemical entities, formulation, development and standardization of new drug delivery system, identifying novel therapeutic targets and treatment for the disease identified under thrust areas like:

Identify major thrust areas of all specializations focusing towards Centre of excellence in "Cancer Research and Drug Development":

1. Design and synthesis of various heterocyclic molecules as anticancer agents
2. Development of analytical methods and bioanalytical of anti-cancer agents/formulations
3. Safety and efficacy studies and investigating molecular mechanisms of novel chemical entities/formulations for their anti-cancer activity
4. Extraction, fractionation, isolation and characterization of novel Phyto-constituents for cancer
5. Formulation & development of novel drug delivery systems for the treatment of Cancer with PK-PD studies

Table 4.2: Five yearly targets for promoting and strengthening the research activities

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Number of Minor Research Projects	6	6	8	10	10
Number of externally funded/NU funded major research project	5	5	5	5	5
Number of collaborative and interdisciplinary projects	4	4	4	4	4
Number of Consultancy Assignments	6	8	8	8	10
Number of students' fellowships/grant	8	9	10	10	12
Number of Publications by faculty members	40	45	50	55	60
Number of Book/Book Chapter by faculty members	5	5	6	6	8
Number of national/international presentation within India	25	25	25	25	25
Number of international presentations outside India	2	2	2	2	2
Increase in average impact factor of published paper by faculty members	2	2.25	2.5	2.5	3
Number of patents filing by faculty members	2	2	2	2	2
Patent filing awareness program for faculties/ Ph.D. students	2	2	2	2	2
Number of Idea Lab Projects by students	3	4	6	8	10
Research awareness program	2	2	2	2	2

Goal-3: To establish linkages and collaborations

Stretagy-1. To involve Industry experts in teaching, learning and research

Strategy-2. To establish collaboration with government laboratories/agencies and international organizations

Strategy-3. To organize skill-based training/workshop for industry personnel

Action Plan: Under the banner of Centre for Continuing Education (CCE), skill-based training can be proposed based on the need of industry at least once in a year.

Strategy-4. Placement of the students in reputed companies with good pay scale

Action Plan: Contact will be developed and maintained with recruiters by Manager corporate relations. Alumni network will also be leveraged for reaching out to companies and training of students by and Alumni activity coordinator / Manager Corporate relations / concerned department heads. After analysing trends and recruiters' surveys, action plan will be decided for each year after discussion in Institute level placement committee.

Table 4.3: Five yearly targets for establishing linkages and collaborations

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Industrial experts as visiting faculty (In numbers)	30	32	35	38	40
To involve industrial experts in institutional committee like Advisory committee member (In numbers)	3	3	3	3	3
Industrial person as area Committee and Faculty of Pharmacy member (In numbers)	2 industry persons in Area committee of each department. 3 to 4 members in Faculty of Pharmacy.				
To invite industrial person as Research Progress committee member for Ph.D. students	Each Research Progress Committee should have one member from industry				
Faculty exchange with international institutes	1	1	1	2	2
Student exchange with international institutes	10	15	15	15	15

Number of MOUs	1	1	1	1	1
Linkages with pharmaceutical industries and research organizations of national repute	1	2	2	2	2
Arrangement of campus recruitments (In numbers)	25-30	25-30	25-35	25-35	25-35
Arrangement of Mock interviews (In numbers)	1	1	1	1	1
Arrangement of soft skill development programs	8	8	9	9	10
Percentage of students to be placed (who opt for placement)	90-100	90-100	95-100	95-100	95-100
Percentage increase in average salary package every year	7.5	10	7.5	10	7.5
Percentage of International recruitment	0	0	5	5	10

Goal-4: To develop infrastructure facility to meet the requirement of research

Strategy-1. To establish Cell Culture Laboratory

Table 4.4: Five yearly targets for establishing Cell Culture Laboratory

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Number of Laboratories	1	0	0	0	0
Number of Instrumentation/equipment	3	1	1	2	2
Number of Consultancy	1	2	2	3	3
Number of Training programmes	0	1	0	1	0
Recruitment of staff	0	1	0	0	0

Strategy-2. To upgrade existing facilities

Table 4.5: Five yearly targets for upgrading existing facilities

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Laboratories	1	1	1	1	1
Instrumentation/equipment	3	4	5	7	7
Class rooms	2	2	2	2	2
ICT/computers	5	5	5	5	5
software	1	1	1	2	2
Animal house	0	√	0	0	0
Recruitment of staff	1	1	1	1	1

Strategy-3. To initiate Medical Device programme

Table 4.6: Five yearly targets for establishing Medical Devices programme

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Number of Laboratories			1		
Number of Instrumentation/equipment	0	0	2	3	3
Number of Faculty recruitment	0	0	1	2	0
Number of students' fellowships/grant	0	0	2	3	5
Linkages with pharmaceutical industries and research organizations of national repute	0	1	1	2	3

Strategy-4. To establish Incubation Centre

Table 4.7: Five yearly targets for establishing Incubation Centre

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Number of Laboratories	0	0	0	1	0
Number of Instrumentation/equipment	0	0	3	4	5
Number of Projects/idea lab funded	2	3	3	5	5
Linkages with pharmaceutical industries and research organizations of national repute	0	1	1	2	3

Strategy-5. To establish Centre of Excellence in Cancer

Table 4.8: Five yearly targets for establishing Centre for Excellence in Cancer

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Number of Laboratories	0	1	0	0	0
Number of Instrumentation/equipment	0	4	5	7	7
Deputation of dedicated personnel	0	1	0	1	0
Linkages with pharmaceutical industries/Hospital and research organizations of national repute	2	2	2	2	2
Consultancy/Training programmes/value added courses	0	1	2	3	5

4.8 Monitoring and Alignment: Structure and Systems

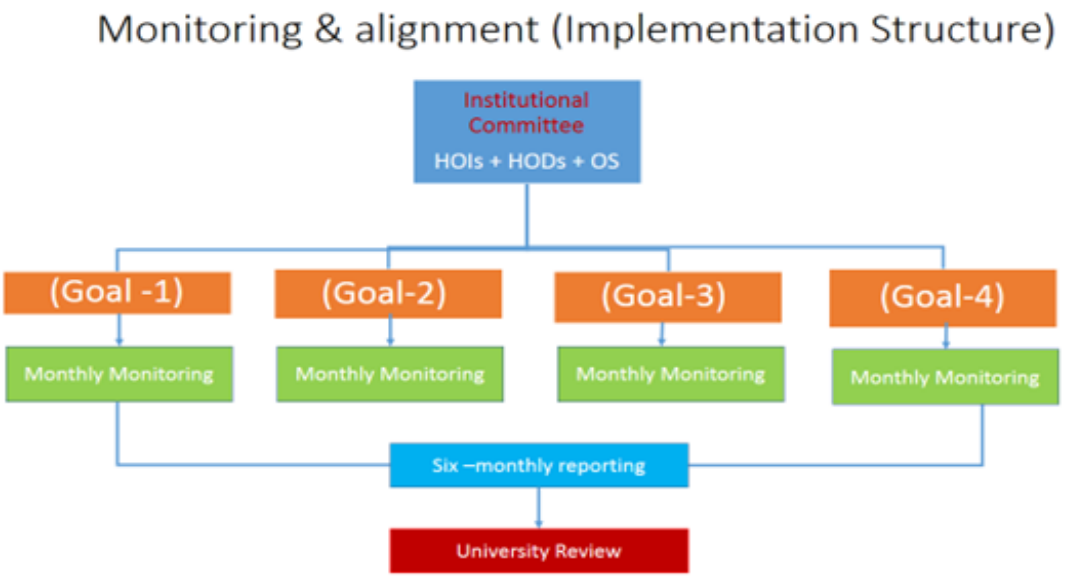


Figure 4.4: Monitoring of strategic plan of the Institute of Pharmacy

The Institute will monitor the effective implementation and progress of the Five-Year Strategic Plan. The plan will be implemented and closely monitored by the Institutional Committee. The committee will consist of HOI, HODs and OS. The committee will meet on a monthly basis and review the progress at the institute and will facilitate the proper implementation of the strategic plan. The Institutional Committee will submit the report to the University on six monthly basis.

Chapter – 5

Strategic Plan of the Institute of Science

5.1 About the Institute of Science

5.1.1 Preamble

Biological science has reached its height and has become multidisciplinary in nature. The success of human genome sequencing with the emergence of systems biology has revolutionized the field of biology and led to the rapid progress in understanding the biological phenomena at molecular level. Personalized medicine is soon going to be part of our life style in managing human health. The technologies developed during the last two and half decades not only help us give new dimension to scientific innovations, but also reduce the cost of molecular diagnosis for many diseases.

The Institute aims to introduce excitements in Modern Biology to the students and motivate them to take the challenge to make significant contributions to the knowledge and to develop novel technologies for solving the imposing problems of food demand, good health, clean environment, etc.

The programmes are designed to provide students with a good understanding of the concepts, ability to identify, analyse and address scientific problems. Our multidisciplinary approach of teaching is innovative and emphasizes hands on learning of the basic principles and techniques that are critical to understand biological sciences.

The students are guided towards acquiring the required standard of knowledge, comprehension and technical skills that will make them productive and thus help them achieve their goals.

Vision

Shaping a better future for mankind by developing effective and socially responsible individuals and organizations.

Mission

Institute of Science emphasizes the all-round development of its students to create good scholars, industry-ready professionals, research-scholars/scientists. It aims at producing not only good professionals, but also good and worthy citizens of a great country, aiding in its overall progress and development.

5.2 Need for Strategic Plan

Institute of Science, Nirma University (ISNU) has made rapid strides in its last 15 years of existence. The institute is transforming itself from an academic institution to an institution which imparts its academic teaching through research. This requires crafting a strategic plan that is consistent with the institute's as well as the university's overall vision, mission and goals; widely understood and unequivocally supported by faculty, staff, students, and other key stakeholders and responsive to the key competitive forces in the environment; and provides a powerful framework capable of guiding strategic decisions and action plans to constantly innovate and improve all aspects of the institute's activities.

5.2.1. The Approach

The strategic plan is based on the overarching aspiration for the Institute: ISNU will be one of the most sought after institution in the western zone, known for its high calibre teaching, training and research activities.

The main elements of the strategic plan include objectives, actions which define areas of focus and means for achievement. The plan develops a set of metrics for assessing institutional progress towards the objectives. The procedure for assessment should be developed and used at the time of implementation of this strategic plan and in consultation with the program and area coordinators.

The strategic planning process was initiated with a brainstorming session in July-August 2019 in order to provide the institute with a road-map capable of achieving the institute's aspiration. The process was mainly focused on addressing the four questions: (a) who are we as an

institution? (b) where are we now and where do we want to go?, (c) how do we get there?, and (d) how do we know we are getting there?

5.2.2. Organisation of the Plan

The first question addresses the need to understand and interpret our vision and mission statement and identify the core values of our institution. The answer to this question will act as compass that will guide all strategic decisions and initiatives. The second question refers to goals or directions towards which the institute should work over the next five years while the third refers to actions needed to move in these directions. Assessing the results of the actions taken using metrics and indicators is essential to know the progress towards goals which the final question seeks to address. The infrastructure requirements and financial projections are given in Appendix A and B respectively.

5.3 Environmental Analysis

5.3.1 International Scenario

The development of modern biological science in India is not an organic extension of the earlier tradition. It is an implant by the British in a language that was alien to its people. It needed nourishment and nurturing to be absorbed in the society. Science was looked upon as an appendage thrust by the British for their own benefit, and biological science education was hugely neglected.

Internationally, the number of institutions with modern biological sciences has increased from 18% to 43% of the total fields of education provided. The biological output in terms of research output in the last decade has increased 19 folds in European, 21 in America and 27 folds in China alone.

Over the last decade, the number of students enrolled in Modern Biological science programmes has also increased. The major reason for the sharp shoot in the inflow attributes to growing opportunity in the biological sciences in research, industry and academies. Employment of

microbiologists is projected to grow 5% from 2018 to 2028, about as fast as the average for all occupations.
(https://www.bls.gov/ooh/life-physical-and-social-science/mobile/microbiologists.htm).

5.3.2 National Scenario

Life sciences and allied sectors are gaining more importance in India than ever before, be it industry, biomedical and basic research or the understanding of our spectacular biodiversity. India can be envisioned as a nucleus for research in frontier areas in the near future; but for this to happen it is imperative to foster a world-class community of scientists, administrators and policy makers (https://indiabioscience.org/about).

Recognizing the crucial role played by S&T in the process of economic growth and social transformation, major emphasis has been given to higher science education during the early years of independence. For S&T education and training several institutions comprising the Indian Institute of Technology (IIT's), Indian Institute of Science (IISc), IISERs, institutes of national importance like CCMB, NII, THSTI, CSIR-CDRI, central universities, many other universities and colleges were established.

The demand for higher education in biological science has increased from 15% in 2005 to 21% in 2012. The level of higher education is determined by the size of institutional capacity of higher education system in the country. The size of higher education system in turn, is determined mainly by three indicators, namely number of educational institutions, universities and colleges, the number of teachers and number of students. Higher education in biological sciences has witnessed many fold increase in its institutional capacity since independence.

Supply

During 1950 - 2008, the number of universities has increased from 20 to about 431, colleges from 500 to 20,677 and the teachers from 15,000 to nearly 5.05 lakhs. Consequently, the enrolment of students has increased from a mere 1.00 lakh to over 116.12 lakhs. In terms of increase in the number of universities, they have grown from 903 (2017-18) to 993 (2018-19). According to HRD ministry India's higher education student population has grown by 8 lakh in last one year (https://www.livemint.com/education/news/india-s-higher-education-student-population-grows-by-8-lakh-hrd-ministry-1569081600712.html).

Opportunity

The scope and output of the biological sciences in India are destined to increase considerably. The biological scientists in India are in growing demand owing to the exponential growth in the research and developmental activities in biotech and pharmaceutical companies, academic and research institutions and health sector. With the increasing demand for health care and agricultural initiatives for a safer and healthier tomorrow, the biological schools will be actively involved in providing scientifically active individuals.

Challenges

One of our major challenges are newly up-coming local colleges and state owned University offering M.Sc. courses in Biotechnology, Microbiology and Biochemistry at fairly nominal fee. The major challenge poised for the biological science students is the potential placement opportunity after the completion of their education. Secondly, the salary structures offered to them are nowhere in comparison to those offered to the IT and management graduates. At most of the institutions, the curricula offered are relevant to the programmes, but they are not sufficient and significant to fetch them a job placement. More emphasis is given to theoretical knowledge rather than providing actual practical and research skills. The technical writing skills are completely missing. This calls for a completely new and improvised curriculum which are designed and imparted by highly trained and experienced faculty members specifically at senior levels which is vastly missing.

a) **Regulatory Framework**

India's higher education system is the third largest in the world, after China and the United States. In the future, India will become one of the largest education hubs. The regulatory body for the education in the biological sciences in India are University Grants Commission (UGC) and Department of Biotechnology (DBT), Government of India, New Delhi. These governing bodies have been involved only in formulating the curriculum for the courses recognized by them rather than actually looking into the compliance with the laws and norms for the implementation of courses, qualification and number of the faculty members, maintenance of the required standard. Institute of Science adheres to the rules and regulations constituted by University Grants Commission (UGC), New Delhi for streamlining tie curriculum under various programmes and follows DBT guidelines for its research activities and appointments of research personnel.

b) **Governmental Role**

From the early 20th century, there have been several high-level commissions set up to provide policy orientation to the development of higher education in India. Higher education has received a lot of attention in India over the past few years. There are four reasons for this recent focus. First, country's weak higher education system is being blamed for skill shortages in several sectors of the economy. Second, reservation quotas in higher education institutions, particularly the more reputed ones that provide access to high status and best-paid jobs has become a highly divisive issue, central to the policy of inclusive growth and distributive justice, and hence politically very important. Third, in the backdrop of the first two developments, it began to be argued that the country would not be able to sustain its growth momentum and maintain competitiveness unless problems with higher education are fixed. Finally, the demand for higher education continues to outpace the supply due to a growing population of young people, gains in school education, the growing middle class and their rising aspirations.

To overcome all these hurdles, the government should promote infrastructure and other financial support to ISNU and other government grant in aid colleges; more opportunity of absorbing students in the State and Central PSU's, providing research and infrastructure grants projects to ISNU and mediating foreign collaborations with international institutions for the overall development of the Institute.

5.4 Competitive Analysis: Strategic Grouping and Benchmarking

5.4.1 Major Competitors

The major competitors for Institute of Science, Nirma University, are the Post Graduate departments of the state universities such as Department of Biochemistry, Microbiology and Biotechnology at M. S. University of Baroda, Department of Microbiology & Biotechnology at Gujarat University, Department of Life Sciences at the Central University of Gujarat. Among the private universities, Department of Biotechnology and Microbiology at CHARUSAT, Department of Life Sciences at Ahmedabad University, Department of Biotechnology at Marwadi University, Rajkot are our direct competitors.

Table 5.1: Competitive analysis

Sr. No	Name of Department & University	Highlighting Feature
1.	Department of Microbiology & Biotechnology, Gujarat University	First Preference: Fees is the major criteria, Experienced faculty with diverse expertise; Decent Research background
2.	Department of Biochemistry, St. Xavier's College, Ahmedabad	First Preference; Fees is the major criteria, they have a good U.G course in Biochemistry and have started now started M.Sc. Biochemistry. Strong teaching learning.
3	Department of Biochemistry, Microbiology & Biotechnology, M. S. University of Baroda	Second Preference; Through Common entrance test; Skilled faculty with diverse expertise; Strong Research background; National and International Collaboration; Strong Alumni Base
3.	Department of Life Sciences, Sardar Patel University	Third Preference; Fees is the major criteria, Experienced faculty with diverse expertise; Strong Research background; Sophisticated Instrumentation; Strong Alumni Base
4.	Department of Life Sciences, Central University of Gujarat	Fourth Preference; Admission through common entrance test, Sophisticated Instrumentation Facility
5.	Department of Biotechnology and Microbiology at CHARUSAT	Fifth Preference; Sophisticated Instrumentation Facility; Faculty with diverse research Interest; Strong Industry Support
6.	Department of Life Sciences, Ahmedabad University	Sixth Preference; Sophisticated Instrumentation Facility; Strong Industry Support

5.4.2 Benchmarking

The institute would like to benchmark itself in terms of teaching and research against nationally reputed institutes like IISER/NISER, Interdisciplinary School of Health Sciences, Pune University, etc. For M.Sc. (Biotechnology), we may consider Jawaharlal Nehru University (JNU)'s M.Sc. as benchmark. Similarly, M.Sc. (Biochemistry) run by Banaras Hindu University (BHU) and M.Sc. (Microbiology) run by Manipal University can serve as benchmark for said programmes run by us.

5.4.3 Strategic Intent and Capabilities

Institute of Science is trying to make its foothold in an environment wherein the academic excellence should come with enhanced research aptitude. To achieve this, it is essential that the curriculum should provide the academic excellence at par the market requirement at the same time ensure that the research inquisitiveness is properly and systematically nurtured.

Capabilities: To achieve the strategic intent, the Institute has strengthened its curriculum by providing higher order thinking in teaching as well as research. Simultaneously, the students will also have overall development with a wide range of Co-curricular, extracurricular and societal driven activities.

5.5 SWOC Analysis

5.5.1 Overview

Institute of Science, Nirma University was established in the year 2004. It aims to provide an alternative to the students who desire a post- graduate degree and whose career objectives go beyond academic research. The Institute aims to provide students with a broad training and education in biological sciences encompassing science, business, legal, social and ethical aspects to enable them to explore wide career opportunities.

The Institute emphasizes on making the students' academic educators, scientists in both academia and industry, members of decision-making bodies, business and management teams in Government and Industries, Bio-entrepreneurs, public and private organizations that deal with social, ethical and legal issues in Biotechnology. To achieve its goal, it has reconstituted its Institutional Advisory Committee. The committee now constitutes of eminent academicians, researchers both at research institution as well as from industry and administrator involved in policy making decisions. The members are:

1. Prof. Bhushan Bhatwardhan, Interdisciplinary School of Health Sciences, University of Pune
2. Prof. Rakesh Bhatnagar, School of Biotechnology, Jawaharlal Nehru University, New Delhi
3. Prof. L S Shashidhara, Coordinator, Biology, Indian Institute of Science Education and Research (IISER), Pune

4. Prof. M K Bhan, Former Secretary, Department of Biotechnology, New Delhi
5. Dr. Himanshu Gadgil, Vice President (R&D), Intas Biopharmaceuticals
6. Dr. Bhaskar Chakraborty, Sr. Vice President, Cadila Pharma
7. Dr. Narottam Sahoo, Advisor and Member Secretary, Gujarat Council for Science and Technology (GUJCOST).
8. Dr. Jai Shankar Das, Joint Director GBRC, Gandhinagar.

Programmes and activities:

The Institute offers the following programmes which are recognized by UGC.

Post Graduate programmes

M. Sc. in Biochemistry

M. Sc. in Biotechnology

M. Sc. in Microbiology

Fulltime and External Ph. D. programmes

Biochemistry, Biotechnology & Microbiology

5.5.2 Research and Extension

The Institute of Science has been very active in its research grant. The faculty members are actively involved in three broad areas of biological sciences i.e., biochemistry, biotechnology and microbiology.

Individual faculty are involved in their specialized areas of research which includes Microbial Diversity; Bioremediation; Plant Growth Promoting Rhizobacteria; Molecular Biology of Plants, T Cell Immunology & Malarial Research; Hepatic and Colon Cancer Research, Immunology of Cancer and Sepsis, Cell biology and membrane trafficking, Correlating Mitochondria and calcium role of male reproductive physiology; Understanding and modulating the Gut Microflora in Type II diabetes and Inflammation; Anti-bacterial activity of plant extracts; Microwaves associated effect of microbial population; Protein structure-function studies; Neurobiology of Epilepsy & Diabetes; Genetic determinants of human disorders and Genotoxicity assessment.

Twelve Nirma University funded Minor Research projects and two externally funded Minor Research Projects and fourteen externally funded Major Research Project successfully completed. Currently, seven externally funded Major Research Projects and two Nirma University funded Minor Research projects are ongoing. Additionally, the Institute also has an Institutional Ethical Committee to monitor and to contribute to safeguarding the dignity, rights, safety, and well-being of all actual or potential research human subjects or using human samples. The Institutional Bio-Safety Committee of Institute of Science was constituted to monitor the use, import/export and storage of hazardous microorganisms and genetically engineered organisms or cells. The IBSC monitors evaluation, assessment and monitoring of adherence to the biosafety guidelines with overall oversight of the regulatory process, at the institutional level.

5.5.3 Infrastructure and Facilities

Learning Resource Centre

The library at Institute of Science has a collection of more than 2000 volumes covering text books, reference books and general books. In addition, the Institute has access to more than 48 journals through print and online subscription. The institute also has a thesis repository of more than 180 theses which includes the M.Sc. Dissertation as well as doctoral thesis.

Campus Recruitment Cell

The Institute has an effective Campus Recruitment Cell which coordinates the recruitment activities, provides career guidance and professional training to the students in the form of Mock interviews, workshops, industrial visits and training programs.

Research Facilities:

As the Institute of Science is actively involved in research, it has sophisticated instrumentation facility with instruments such as Flow Cytometer, Inverted Fluorescence Microscope, Upright Fluorescence microscope, Fermenter, Microtome, Lyophilizer, DGGE, gel Documentation System, Biolog, Thermal Cycler, Gradient and Real Time PCR, Stereo Microscope, HPLC, Fluorimeter, Luminometer, -80 ^{0}C Deep Freezer, CO_2 Incubator, Plant growth Chamber to name a few.

In addition, it also has Animal Cell Culture Facility, Insectarium for the malarial parasite research, Plant Growth Chamber and Animal House.

5.5.4 SWOC analysis

Strengths

- Strong curriculum and Innovation in teaching and learning
- All the faculty members possess Doctoral degree; 4 with NET/GATE
- Strong research foundation during Master's Degree in the form of In-house Dissertation; Many of the M.Sc. dissertations has resulted in indexed publications
- Wide diversity of research interests/ expertise among faculty with individual research projects
- Institute has tie-ups and linkages with several state level and national institutes which has led to collaborative and networking Research projects
- Institute is supported by DST-FIST for infrastructure development
- Bioinformatics nodal centre sponsored by GSBTM at ISNU
- ISNU has a lush green, amiable and pleasant surroundings
- Highly preferred Institute in west zone of India for Master studies in biological sciences

Weaknesses

- The current FSR is 1:20 which needs to be brought to at least 1:12
- Lack of trained support staff (lab assistant/ clerical staff)
- Many students from vernacular background find it difficult to cope up with teaching learning activities
- UGC 2f recognition, yet to receive 12b status
- Relatively high tuition fee structure
- Higher Batch size for laboratory practicals
- No office space for faculty adjacent to laboratories
- The alumni support to alma mater remains low

Challenges

- Many local universities and possible entry of foreign universities restrict the student pool and quality
- Attracting a good number of students from other states
- Providing High End Equipment for research
- To earn high number of citations as an institute and as individual faculty, typical of nationally and internationally reputed institutes

- Attracting International funding through collaborative efforts
- To improve the Applicants : Admitted candidate ratio for M.Sc. and Ph.D. programmes
- To get more of our students clear NET-JRF exam
- Strengthening of M.Sc. practicals

Opportunity

- Research Based teaching and skill development
- Expansion of research thrust into the area of systems biology, genetics and biophysics
- Sufficient employment opportunities for biologists are likely to arise in-face of notable growth in pharmaceutical/ nutraceutical/ phytopharmaceutical sectors
- Institute location in neighbourhood of bio-pharma hub of western zone helps pursue translational research
- Given the hitherto research history of current faculty, Institute may aim at emerging as one of the notable institutes in research associated with human health and diseases (communicable as well as non-communicable)
- With 5 Faculty members working in the various aspects of Cancer Biology, the Institute stands a good chance to attain 'Centre for Excellence' in Cancer

5.5.5 Distinguishing and Differentiating Characteristics

- Balanced Curriculum comprising of basic, advanced and enrichment courses
- Research as an integral part of the teaching and learning
- Systemic and Continuous Assessment
- Excellent opportunity to showcase and to improve communication skills in the form of regular presentations and English enhancement courses and professional writing
- Students trained for professional training in the form of summer internship, co-curricular activities, extra-curricular activities and extension activities
- The opportunity to publish their findings in leading reputed journals, unique for dissertation research
- The opportunity to interact with leading researchers and academicians for career guidance and research related suggestions
- Students trained in designing, implementation and execution of research ideas
- Dedicated Campus recruitment cell and monitoring system

5.5.6 Stakeholders Value Proposition

Table 5.2: Stake holders value proposition

Stakeholder	Feedback on Organizational Performance / Expected Service	Stakeholders Value Proposition
Student	Good	Excellent Learning Experience and skill development
Faculty	Satisfactory	Strong training and development measures; Career oriented approach; Conducive environment for research and training
Staff	Satisfactory	Better environment; Streamlined Process
Parents	Good	Industry placement and training
Alumni	Satisfactory	Sustaining good brand quality education
Industry	Satisfactory	Competent and better performers

Expectation of the students

The expectations of a student registering for a Post graduate program are as follows:

- He should be provided with latest updated theoretical information and should have practical know-how of using various instruments important for biological sciences.
- They should be able to apply the concepts and strategies within their professional career
- The students should be able to secure good placement within academics and industries based on the expertise gained during their two year post graduate programme

How to improve Student's Employability?

The students of the Institute of Science will be provided with the following skills to improve their employability:

- More emphasis will be provided in enhancing and master their basic skills of communication, work ethics and integrity
- Technical efficiency will be taken care of during their higher semesters where they will be provided with Enrichment Course and CV preparation and interview facing trainings.

Faculty Development/ Retention

Institute of Science is planning to appoint senior level research faculty members, preferably at the Associate professor and professor grade. In order to retain the existing faculty members and to attract research faculty, the Institute is proposing the following initiatives:

- Providing research laboratories with furnished basic equipment to carry out their research activities.
- Newly appointed research faculty will be provided with Seed Money to initiate their research activity
- These faculty will be allotted 2-3 Ph.D. students with University Fellowship

Improving Quality

The institute will be taking following initiatives to make the existing faculty a better teacher and an active researcher:

- Reducing work pressure and administrative load of the faculty members
- Constituting Institute Research Committee to monitor, evaluate and guide faculty members with their research projects and to plan the research strategy of the Institute
- Every faculty member will be allotted a mentor who will be part of the Institute Scientific Advisory Committee, who will be guiding faculty members with their research proposals to increase its fundability and to increase the quality of publication and research
- Providing a platform for the faculty members to short term training in various research labs across the country to enhance their research skills

5.6 Strategic Themes

Strategic Intent

To become a centre of excellence to pursue cutting edge research in the biological sciences as well as to impart quality education

Strategies

- Strengthening the teaching learning
- Faculty expansion and development

- Improving the infrastructure for research and teaching
- Initiating and strengthening National and international Collaborative Research

5.6.1 Strategic Goal-1

Strengthening the Teaching Learning

- Interdisciplinary courses: reflection of physical sciences in unit-I
- Greater choice for electives like Structural Biology; Plant Biotechnology
- Cooperative teaching: Faculty within Biology and from Physical sciences
- Value added courses: Communication, cyber security, social extension activities, IPR, Entrepreneurship, drug designing, financial management
- Introduction of foundation courses: Mathematics for Biologists; Chemistry/ Physics for Biologists, etc.
- Special lectures for classical (but essential in modern time too) subjects such as: Development Biology; Plant Biology; Population Genetics; and for modern subjects like Systems Biology

Student- centricity

- To provide students with flexibility in time required for completion of degree to help students pursue their education while working.
- To allow students to carry-out their Sem.-IV major dissertation outside the Institute (i.e at Industry, Research organization & other Research labs of their interest). Credit Recognition from other institutes
- To improve the FSR (faculty to student ratio) to 1:12 from existing 1:20 to maximize faculty attention to individual student
- Strengthening placement for passing-out students
- Skill development: soft skills & experimental skills
- Encouraging entrepreneurial enterprise in our students
- To enhance the employability of our Ph.D. students by sharpening their writing skills

5.6.2 Strategic Goal-2

Faculty Expansion & Development

- Faculty expansion based on research expertise.
- Inviting INSPIRE faculty candidates
- Deputing the newly recruited faculty members to Induction programmes.
- Deputing the existing faculty members to refresher courses/ conferences (national as well as international)
- Encouraging faculty members to STTPs and workshops to enhance skill based learning.
- Deputing faculty members for specialized trainings at reputed national labs/foreign universities/nearby industries.

Enhancing Efficiency of Non-teaching Support Cadre

- Recruiting post-graduate level qualified candidates for lab assistant and clerical positions (MBA/PG-diploma).
- Sharpening skill of support staff through short term courses in art of communication (particularly written communication).
- Deputing lab-staff for experimental and biosafety trainings.

5.6.3 Strategic Goal-3

Improving the infrastructure for research and innovation

- Development of collaborative multi-Institutional research projects on thrust areas of faculty members.
- Inviting Scientists and renowned academician from Nationally & Internationally reputed Research organization and Academic Institutes for Exert Lectures, Workshops and brainstorming sessions.
- Improving infrastructure Sophisticated Instrument Facility/FIST-II
- Making efforts for developing the Centre of Excellence: Cancer Biology (2020-2025); Vaccine and Biotherapeutics (2025-2030)
- Separate lab space for each faculty; faculty office area adjacent to lab
- Ensuring sufficient quality time for research by minimizing administrative burden and optimizing teaching load
- Instituting an Emeritus Professor Chair
- Provision for fellowship to all Ph.D. students at par with national norms

5.6.4 Strategic Goal-4

Enhancing visibility of the institute

- To foster professional relations with renowned state, national and International Institutes by developing MoU & Linkages, research collaboration.
- To encourage Faculty & Student exchange with the above listed Institutes for enhancing prominence.
- Invite Experts from National & International reputed research/academic Institutes foster collaborative research.
- To strengthen institute's scientometric visibility on various digital professional platforms e.g. ResearchGate, Loop, ORCID, Publons.

5.6.5 Strategic Goal-5:

Improve organizational excellence

- To recruit Project Managers to significantly reduce the turnabout time for purchases meet the deadlines for project reports and utilization certificates.
- Coordinate with University Officials to develop a plan for space for expansion and development of faculty labs.
- Enhance transparency through dissemination of information, improve the implementation & progress by developing appropriate monitoring mechanism.

Monitoring Mechanism

- Half Yearly Review by Research Progress and Review Committee
- Annual Review with Academic/Scientific Advisory Committee
- Annual Meeting with Advisory Council
- Periodic analysis of scientometric data of Institute and its faculty, sourced from third-party platforms like Google Scholar, Scopus, ResearchGate.

5.7 Budgetary Implications and Timeline

Table 5.3: Budgetary implications and timeline

Goal	2020-21: A	2021-22: B	2022-23: C	2023-24: D	2024-25: E
1	Reflection of physical sciences in unit-I; Cooperative Teaching	Greater choice for electives; Value added courses; Introduction of foundation courses			
	To improve the FSR (faculty: student ratio): This will require approximately Rs. 1.2 lakh/ month in terms of salary of 2 newly recruited faculty (Asst. Prof.)				
2	Deputing the faculty/ support staff for conferences/ trainings within and outside India (Rs. 100,000/- per year)				
2		Recruiting post-graduate level qualified support staff (@approx. Rs. 60,000/- per month in terms of salary of 2 newly recruited people			
3	Fellowship for all registered Ph.D. students at par with national norms i.e. @ approx. Rs. 25,000/- per month		Application for Center for Excellence	Theme-specific brainstorming sessions inviting external experts (@ approx. Rs. 100,000 for each such session)	
3		Acquiring additional space (minimum. 400 sq. m) for: (a) constructing new labs, so that each faculty			Instituting an Emeritus Professor Chair @ monthly

		gets an individual lab area (b) Classrooms/ reading room (minimum 4) (We do not have the know-how for calculating budget for this)		honorarium of Rs. 100,000/-
4				Invite Experts from National & International Institutes for 2-4 week stay (Rs. 200,000/- per expert)
5	Recruitment of Project Manager (@ approx. Rs. 30,000/- per month)			
5	RAC (once per year) and IBSC (twice a year) meetings: @Rs. 100,000/- per year			

1A-1B: Besides the knowledge of core biological subjects, students need to be aware of physicochemical principles associated with various biological processes. Cooperative teaching for imparting knowledge of physical sciences will help achieve this objective. Within campus faculty from Institute of Technology can be invited for such teaching. Greater choice of electives can be offered by recruiting new faculty with expertise (e.g. Structural Biology; Systems Biology) other than those of existing faculty. Recruitment of these additional faculty will diverse expertise will also improve the FSR.

2B: Better qualified support staff will smoothen the institute administration, allowing faculty devoting more quality time for grant writing, research, and student interaction. This will have an overall positive impact on institute productivity.

3A: Institute will request the university authorities to ensure availability of fellowship for all Ph.D. students. This is necessary to attract quality students and overall strengthening of Doctoral Programme.

3C: Institute will keep making efforts for seeking financial support under various government schemes e.g. DST-FIST, DBT-BUILDER, etc. If granted, such support will give notable boost to the lab/ research infrastructure of the institute, while simultaneously enhancing reputation and perception value.

3D-3E: Organizing theme-specific brainstorming sessions will not only expose the faculty to experts of national and international repute, but will also make the outer experts familiar with the research being conducted at NIS. Such networking is necessary for continuous professional development of the faculty. Such sessions will also allow critical evaluation of the research work of NIS faculty by external peers. Such sessions can also prepare platform for collaborative multi-institutional grants.

3B-3C: While new instruments are being regularly added to the institute's infrastructure through internal as well extramural financial support, we are facing a severe space limitation. At present, institute does not have any reading room, discussion room, classrooms. A single building housing lab, faculty sitting, and classrooms will greatly enhance productivity.
3E-4E: Hosting external experts of international repute will be helpful in multiple ways. Such experts can serve as mentors for NIS faculty, and we can benefit from their wide experience, knowledge, as well as networking with scientists/ policymaking bodies.

5A: Recruitment of a project manager will relieve the faculty/ Ph.D. students/ JRFs of administrative burden of managing the extramural projects. While the Project Manager will look after tasks like issuing UTC, follow-up for purchase and repair, etc., faculty and students will be able to devote more quality time for lab work utilizing their intellect/ time/ efforts more effectively.

RAC will keep continuing serving as a useful method of quality check with respect to research and publication quality. IBSC being a regulatory requirement as per DBT norms will keep functioning as it has been since 2012, and will help ensure good lab practice (GLP) at NIS.

Chapter – 6

Strategic Plan of the Institute of Law

6.1 About the Institute of Law

6.1.1 Preamble

ILNU is looking at bringing about a paradigm shift in delivery of legal education in the country. It aims to add new dimensions in legal education that would incorporate international standards thereby providing an environment which would enhance freedom and innovation in the dynamic pursuit of thoughts and civil society engagement to advance the law of the land. We also look forward to enhancing research inputs in the education module thereby connecting students and faculty to the larger platform involving other national and international agencies and playing a pivotal role in framing socially relevant policies in the legal sector. This five-year plan is the brainchild and the final outcome of a joint brainstorming process envisaged by the faculty members of ILNU to enhance the full potential of the institute, mobilize resources optimally and thereby integrating it within legal fraternity.

Institute of Law, Nirma University focuses on 21st Century professional skills through interdisciplinary cutting-edge curriculum, innovative and technology driven pedagogy and assessment, creating personalized learning and versatile career pathways through robust internationalization and global exposures

While the craft of law is our first priority, new frontiers in civil rights and social justice inspires us to look beyond education; into vistas of service and meaningful existence. We elevate our focus on such core competencies as problem solving, collaboration, ethics, leadership, management, cultural competence, and technological sophistication through a Professional Excellence Program that draws on our people resources with student at the center

Founded on 18th August, 2007, in the vision of Padmashri Dr. Karsanbhai K. Patel, the Institute of Law, Nirma University focuses on offering a basal shift in the delivery of legal education in the country. Since the 2007, Institute of Law, Nirma University has been driven by a mission to make the world more sustainable and just through education. We've developed legal professionals, activists, advocates, Entrepreneurs and leaders in every walk of life. Some 1500 graduates—who've carried this mission to courts, corporate, villages and abroad; working to effect change in areas ranging from space laws, corporate laws, criminal law, human rights and environmental law and policy.

ILNU - VISION

Contributing in realization of just, equitable humane and sustainable society through innovative and equally competitive liberal law education, adopting best practices and embracing new technologies focusing on personalized learning paths fulfilling career ambition and life goals of all the students.

OUR MISSION

ILNU aspires to be recognized as leading provider of justice education in the country. It endeavors to prepare outstanding and ethical legal professionals and statesmen through professional training and skill development.

Institute of Law, Nirma University has adopted the Outcome Based Education Model for the holistic development of its students. The teaching-learning process has been edifice to ensure that students learn by constructing knowledge rather than by receiving knowledge from others. This constructivist approach requires new techniques for assessing students' learning that includes assessment as an integral part of teaching in order to better understand what students have learnt during the process. The curriculum at the Institute of Law is novel, innovative and meticulously designed to keep students equipped and updated with the skills needed in the profession. A separate enrichment program and professional training module run parallel with the regular course curriculum right from the first year. This enables the students to develop a multi-disciplinary approach to law.

Our Faculty members not only keep abreast of the recent developments and research in their respective fields but also regularly involve students in research-based learning. This is reflected in the various publications and conferences that our Faculties contribute too.

Further, there is an emphasis on teaching students to apply their conceptual knowledge to legal issues and problems. In order to enable the students to gain a better insight into the working of the legal profession, the practical work component such as Problem Solving, Mock Trial, Moot Court, Research Writing, Project Work, Case Study, Active Learning, Experiential Learning, Field Visits and innovative mechanisms are used in the teaching-learning process. Along with this, students also go through a rigorous internship for four weeks every semester in NGO's, Trial Court, High Court, Supreme Court, Law firms etc. Internship experience not only strengthens job placement but also provides an opportunity for the students to apply the legal concepts and practices in real professional front.

Over the years, INLU has been recognized as eminent law schools by various rating agencies from industry, Bar and Bench and societal stakeholders.

- Legal Aid Clinic of the Institute of Law, Nirma University received the *Award of Excellence for contribution in Social Justice and Legal Aid* at the 3rd National Conference on Human Rights & Gender Justice 2018 at Indian Law Institute, New Delhi on 23rd June 2018.
- The Institute was selected as IP Campus of the Year (Legal) for its outstanding contribution in the field of Intellectual Property at the IP-Hall of Fame Honours, held on July 2017.
- We received the 'Best Law Education Institute' under Goodwill Brands Awards in the category of best legal education in the country in a Symposium -Thought of Leadership Champions Change hosted by Herald Global. CMAI Association of India in support of Ministry of Law and Justice, Government of India, has conferred award in "Excellence in Industry Interface in Legal Education" in 2015. In 2012,
- ILNU was conferred the "Institutional Excellence Award" for the year 2012 by the Society of Indian Law Firms (SILF). Since 2012.
- We have been ranked in top three private law institute/Universities.
- Along with the National Law Universities, we have figured among top 10 institutions in the country.

- The story of ILNU showcases a meteoric rise from a humble beginnings in 2007; presently having a national presence.
- The biggest achievement of ILNU is seen in the creation of a student body with high diversity and national character. Most importantly, we are the most preferred institution by a national student body.

The following academic programs are offered by ILNU at present:

Table 6.1: Academic programmes offered by Institute of Law

Under Graduate Programme	B.A., LL.B. (Hons.)
	B.Com., LL.B. (Hons.)
Post Graduate Programme - 2	LL.M. with Constitutional and Administrative Law
	LL.M. with Criminal and Security Law
Doctoral Programme	Full Time Ph.D.
	Part-Time Ph.D.

6.1.2 Legal Education: Need of the Hour

Law governs the world and its people and is the ultimate instrument of change. It has the potential to reform society and guarantees justice to its people. Principally, it is the basic element and facilitator of justice. It serves as an important instrument for achieving socio-economic development in society. The Law Commission of India defines legal education as a science which imparts to students knowledge of certain principles and provisions of law to enable them to enter the legal profession.

The provision of high quality legal education is a pre requisite to high quality legal practitioners, judges and Government law officers. The need for such education is felt not only in the developing and underdeveloped countries but also in the developed nations who have deemed it necessary to assess and revise curricula and methodologies of law courses with an objective to update them for meeting new challenges and needs of their societies. Such a need is much greater in India not only due to its developing status but also because of its rapid economic growth.

6.1.3 Role of Legal Education in Changing Society

Change is a natural and continuous process. However, a change may not always be in the right direction; there may be changes which are undesirable and negative. The way law and state are organised says that both are supplementary and complementary to each other. The law attempts to control the process of change to give it a desirable direction. Legal institutions and the state are at the core of all social discipline. In theory the sovereign power, the ultimate, legal authority in a policy can legislate on any matter and can exercise control over any change process within the state.

Legal education focuses on developing good lawyers who are educated in human values and human rights, besides the law itself. After all, law functions within a society and not in a vacuum, and a society is often value-based which makes cold hard logic difficult to apply in all situations.

6.1.4 Challenges of Legal Education in the 21st Century

The society is growing more and more complex. Technology has posed enormous challenges to the earlier system of law and justice. Trade has become vast and technology oriented. A lawyer has to comprehend the new social and economic changes in the world. The age old practices and tactics are no more relevant now. The legal profession is not what it was a century or even a decade ago. Its role in the society is different now because it has a wider set of economic, political and social roles. Society has changed significantly, and changes in the legal profession reflect those changes. Keeping this paradigm in mind, there is an emergent need to review legal education so that it meets the needs of the society. Lawyers will have to be acquainted with new tools and skills. A well administered and timely relevant legal education can, therefore, be said to be the only choice for the future.

- Imparting Skills – Challenge of imparting important skills and abilities such as Leadership, Technical skills, Teamwork, Collaboration and networking, Management skills, Innovation & Creativity etc.
- Effective Pedagogy – Immersive, Experiential, Creativity enhancing pedagogy is the requirement of the hour. In order to achieve this, faculty team with diverse background and experience is required.
- Robust Curriculum - The curriculum must reflect the changing role of law and teaching has to complement the need of the Bar & Bench and professional practice. Curriculum should aim at social engineering skills which are imperative in a practicing lawyer today.

- Digital Literacy – Computerized legal research is the new reality which needs to be imbibed in teaching and learning process. While the courts have increasingly become digital in approach and practice, law students should be exposed to legal research in a digital environment.
- Employability – With ever growing competition and globalization, students and Institutions must focus on employability as a value proposition in the long run. There is a need to prepare our students for legal practice in courts of law, law firms and corporates, judiciary, government jobs, entrepreneurship and the ever expanding horizon of alternate dispute resolution mechanisms. This surely is a challenge for the law school of the future.
- Internationalization of Law Teaching and Practice - With globalization, international law practice and homogenization of international legal environment through international conventions and treatise, a new array of opportunities have opened for Indian law schools and students. Student and Faculty exchange, Research collaborations with global Universities and all kinds of academic partnerships will be challenging gamut of goals.

6.2 Regulatory Framework

6.2.1 Overview

The Institute of Law, Nirma University is a constituent Institution of Nirma University. Nirma University and its constituent Institutions are accredited by National Assessment and Accreditation Council (NAAC), an autonomous institution of the University Grants Commission, Government of India with 'A' grade.

The letter grade 'A' is a premiere grade awarded to an institution of higher education by NAAC. This accreditation status indicates that Nirma University and all its constituent Institutions meet the standards of quality as set by NAAC, in terms of its performance related to educational processes and outcomes; covering the curriculum, teaching-learning, evaluation, faculty, research, infrastructure, learning resources, organization, governance, financial well-being and student service.

With a sanctioned intake of 240 students for its UG programme and 30 students for its PG programme, it is recognized by Bar Council of India. In addition, the institute also offers Ph.D. in Law in full-time as well as part-time mode.

6.2.2 Compliance with Bar Council of India Legal Education Rules, 2008

Institute of Law, Nirma University has designed its curriculum as per the Rules of Legal Education, 2008 framed by Bar Council of India. It has been offering Core Courses comprising of social sciences for B.A. LL.B (Hons.) and commerce subjects for B.Com. LL.B. (Hons.) in addition to core law subjects, Supplementary Courses, Institute Electives, University Electives and Honors Courses to its students. In addition to that, the institute has also offered foreign law courses, certificate courses and foreign and regional language courses in order to make practice ready professionals. The institute has also constantly made efforts to enhance the practical skills of its students by conducting skill labs and other training programmes.

The institute aims to continue its journey of providing world class legal institution and thereby leave its footprint on the legal education map of the country.

6.2.3 Envisaging Professional LLB Degree as per the Draft Legal Education Rules, 2019

A. Reciprocating rapid global integration of legal regulations for trade, commerce and Industries and technological innovations in global economy;

B. Recognizing the need for national laws to be more sensitive to the international human rights legal principles;

C. Emphasizing on necessity on clinical skill training both in court room litigation management and in alternate dispute resolution mechanism for the Professional legal education in the interest of speedy delivering justice;

D. Recognizing the need for emphasis on super-specializations in various branches of law; to upgrade the curricula, owing to latest developments and achieve optimum efficiency thereby.

6.3 Envisaging a Legal Institution as per National Education Policy 2020

Creating a competent cadre of professionals in the judicial system, including lawyers, judges, paralegal and administrative staff.

- Imparting law education that informed and illuminated with Constitutional values of Justice- Social, Economic and Political – directed towards national reconstruction through instrumentation of democracy, rule of law and human rights.
- Establishing outreach in rural and tribal areas of the country through community or social justice lawyering
- Developing Curriculum that imbibes the culture and traditions of people, the history of legal institutions and victory of "Dharma" over "Adharma" writ large in Indian literature and mythology.
- Ensuring that curriculum reflects in an evidence-based manner, the history of legal thinking, principles of justice, practice of jurisprudence and other related content appropriately and adequately
- Considering the multi-lingual legal system of India, making students competent to handle legal transactions at least in one regional language in addition to English.

6.4 Need for Strategic Plan

Strategic planning is one of the most important elements to get right for an institution aiming for success. It is not simply about setting out what we do, and it does not dictate exactly what we will be doing in five years' time, it will allow us to function correctly and for growth to be sustainable and long lasting. The aim of a strategic plan is to navigate the organization in the right direction with strategic landmarks along the way to make sure that there is direction in our journey. The Strategic Plan presented in this document further extends the mission of the

University as well as the Institute in a symbiotic manner. It provides the means to move beyond borders to provide our unique education to students anywhere in the nation, affording them flexibility to balance academic goals with careers and 21st-century life.

ILNU has come to stand for innovation in legal pedagogy, policy study, law and education, pioneering programs, centers, clinics, and rigorous curricula The Strategic Plan builds upon these successes and core strengths: an excellent B.A., LL.B. (Hons.) and B.Com., LL.B. (Hons.) at UG level and one of its kind LL.M. program with on demand specializations.

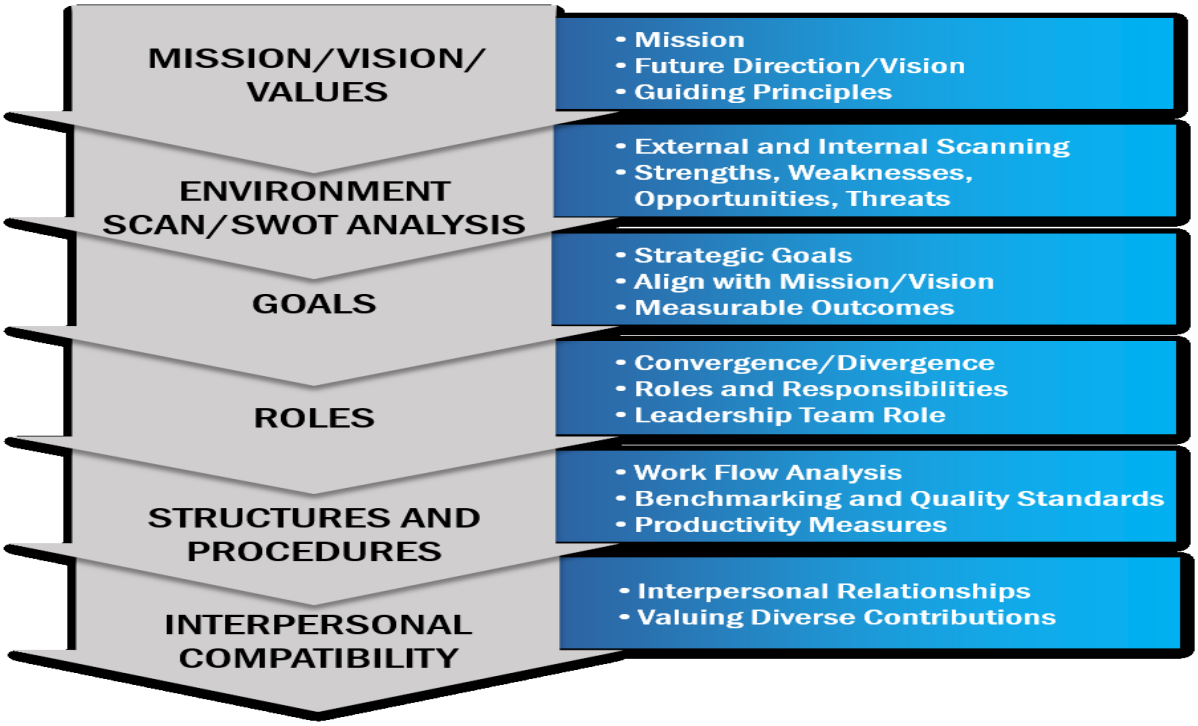


Figure 6.1: Strategic planning model

The planning process begins with understanding the Vision / Mission and Values so that the goals are in sync with the value framework. SWOC analysis gives an idea about the present standing of the organization and the pints where improvements or leveraging can be done. Goals formation is done as per SWOC and benchmarking analysis. Roles and responsibilities are decided so that proper monitoring can be done. Finally, structure and procedures are checked so that implementation is smooth and error free.

Based on the self-analysis by the Strategic Planning team at ILNU, it is felt that we have the opportunity to transform ourselves to lead in law and policy education in ways that adapt to a rapidly changing world. Technology, market and cultural forces have profoundly altered the role of advocates and other professionals, requiring us to equip our graduates with new capacities and new knowledge. The same forces are changing the process of education itself, eliminating the previous limitations imposed by physical distance, opening international opportunities, and pushing us towards a more flexible and outcome-based program that far surpasses the boundaries of our physical location in the World Heritage City, Ahmedabad.

6.5 Environmental Analysis and Assessment

A Comprehensive Analysis of the International, National and Local Situations

6.5.1 International Perspectives

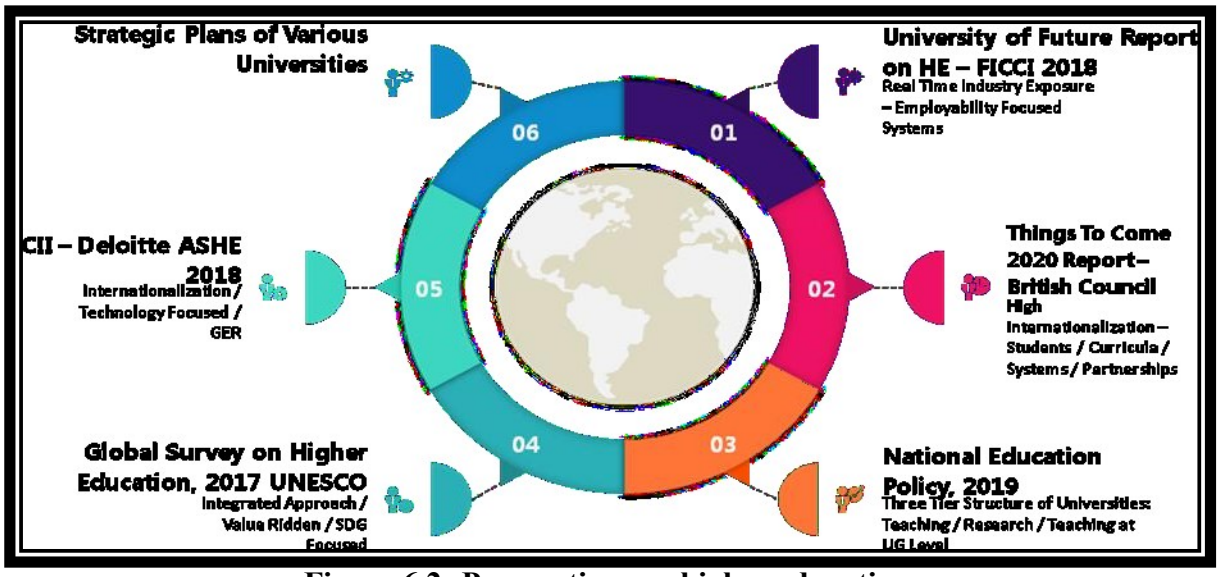


Figure 6.2: Perspectives on higher education

Today's world is a world of competitive forces marching on towards pushing each other beyond the limits. Competition is the essence of life and a sure way to succeed. High quality competition forces us to move at a fast pace and work towards excellence. With this framework in place, it is important to take note of the competition faced by the Institute at International, National and Local levels.

The international perspective was studied by going through the Strategic Plan documents of the following Universities / Law Schools:

- NYU Law, Kentucky University –University of Notre Dame – School of Law, University of Mississippi – School of Law, Stetson Law, Queens University, Faculty of Law, Windsor Law, Texas Tech University, School of Law, UC Berkeley Law, Vermont Law School, Baltimore University – Law School
- Report - University of the Future: Bringing Education 4.0 to life, 2018, FICCI India

6.5.2 Benchmarking with Foreign Law Schools:

The findings and learnings that can be adopted from International colleges can be summarized as follows:

1. They are extremely good in the field of research and development.
2. The nature of interaction and the relation between teacher and student is different in comparison to us. These colleges focus on a symbiotic and cordial relationship between the teachers and students whereas the interaction between student and teacher is formal in the Indian setting due to cultural values and customs.
3. The curriculum of foreign law schools is flexible and the courses offered are in accordance with the interests of students. At ILNU, we have always kept student interests in terms of employability and future prospects. We have dedicated list of Core Courses, Institute Electives, University Electives, Clinical Courses, Supplementary and Enrichment Courses. ILNU aspires to provide further flexibility in courses offered as practiced by global law schools. Since we are also bound by mandates prescribed by the regulatory authorities such as the Bar Council of India, we are not exactly comparable with global standards.
4. The study hours are not too long in colleges outside India which gives a scope to the students to develop themselves in their field of interest.
5. Study abroad programs, student exchange and higher level of exposure are seen at higher ebb at international level. ILNU has already started student exchange program in 2018-19 by sending Ms. Trisha to Pennsylvania State University – USA for completion of LL.M. Program.

6. Scholarship programs are very dynamic and provide encouragement to academics, sports, cultural and other dimensions of pursuits. ILNU already has Merit and Merit Cum Means Scholarship; which is required to be expanded further to suit diverse needs.

6.5.3 Benchmarking with National Law Schools:

The lessons and findings which can be adopted from National colleges can be summarized as follows:

1. Legal aid initiative in curriculums: In colleges such as VM Salgaonkar College of Law, Goa, legal aid initiatives are a part of curriculum and are mandatory for students. There is already a component of practical work in almost all the subjects of law. That component can be translated to service based learning wherein the important aspects of legal aid can be inculcated and developed.
2. Accessibility of library at all times is a major plus point for colleges at national level which can be adopted and implemented.
3. The faculty members of various national colleges have long tenures with high retention rates. This allows for proper institution building and stability in the academic quality of the colleges.
4. The faculty members of various colleges are experienced and the amount of professors and associate professors are higher in comparison to us.
5. Every type of co-curricular and extra-curricular activity is given way in various national colleges and is appreciated which glues together the various stakeholders of a college and creates cordial relations between the students, the teachers and the administrative staff.
6. Various national colleges provide accommodation to students and faculty members which create a sense of oneness and bind the various stakeholders of the college together.

6.6 SWOC Analysis

6.6.1 Strengths

- Innovative Curriculum
- Updated Pedagogy
- Diversity
- Great Infrastructure
- Outreach and Opportunities
- Financial Assistance/Low Income Protection Program
- NAAC A grade

6.6.2 Weaknesses

- We should strive to develop extensive research culture among the students and faculty
- We should endeavor to increase our Publications and establishing a new agenda for research, policy analysis and knowledge generation through original research and publications.
- We should encourage other extra -curricular activities for overall development of the child.
- Lack of Hostel facility at the undergraduate level is also a setback we should try to work upon this aspect as it the only lacuna in our infrastructural facilities.

6.6.3 Opportunities

- Growing popularity or Law as a career therefore we have aspirational population.
- Increase in demand market of Legal professionals.
- We are part of Nirma University which has a renowned name and a rich heritage we should work to take this to higher levels.

- Our strategy can make a path-breaking link between legal education and legal reform. If it recognizes that reforms of legal education and of the legal system itself are inextricably intertwined.
- We can introduce new degree programs like B.Tech LL.B, BSW.LL.B. etc. as there is increasing demand of interdisciplinary experts.
- The current scope of distance education could be significantly expanded. Delivery of distance education through the Internet may be taken up.

6.6.4 Challenges

- Challenge to provide continuous training to legal professionals to make them up to date with global market practices.
- Expertise & ability of BCI to address the demands of changing legal education in India & reform the legal education system as per contemporary requirements in sync with Information Technology & biological and scientific developments, therefore following government guidelines and regulations becomes difficult.
- Loopholes in inspection and recognition of law colleges by BCI.
- Increasing competition with increasing number of National law Universities and other private colleges.
- Changing trends and needs of education system with technological advancement and globalization in the various fields.

6.7 Our Differentiators

6.7.1 Innovation in Curriculum

- Exclusive value-added, skill development and supplementary courses.
- Enhancement of practical and experiential learning through specially designed clinical courses.
- Customized courses on professional training based on career choice of students.

- Foreign language courses of international importance.
- Specialized courses on Legal Drafting offered in different semesters.

6.7.2 Instructional Pedagogy

- Outcome Based Education model
- Clinical pedagogy with practical approach
- Emphasis on academic orientation along with systematic internship training programmes with credit in each semester
- Interaction with renowned lawyers, judges, law teachers and scholars Student Membership Services
- Legal clinic for societal outreach and clinical training
- Innumerable opportunities to participate in National, International events like seminars, moot courts etc.
- ICT based technologies to facilitate active learning.
- Dedicated campus recruitment cell and facilitation for professional training and placement

6.7.3 Infrastructure and Support System

- Legal research centers to inculcate interdisciplinary research aptitude.
- Air-conditioned theatre classrooms & Smart Classroom with advanced teaching aids.
- Rich air-conditioned learning resource centre with all advanced online legal databases State-of-Art Moot court, and extensive Moot Court Training from the first year.
- Lush-green self-sufficient campus with basic amenities like the bank, student's store, transport, canteen, sports ground, Health Care center etc.
- Wi-Fi enabled campus

6.7.4 Academic and Extension Activities:

- Academic law conclave (IPR, Environment law, criminal law, constitutional law)
- Annual literary fest-Cognizance

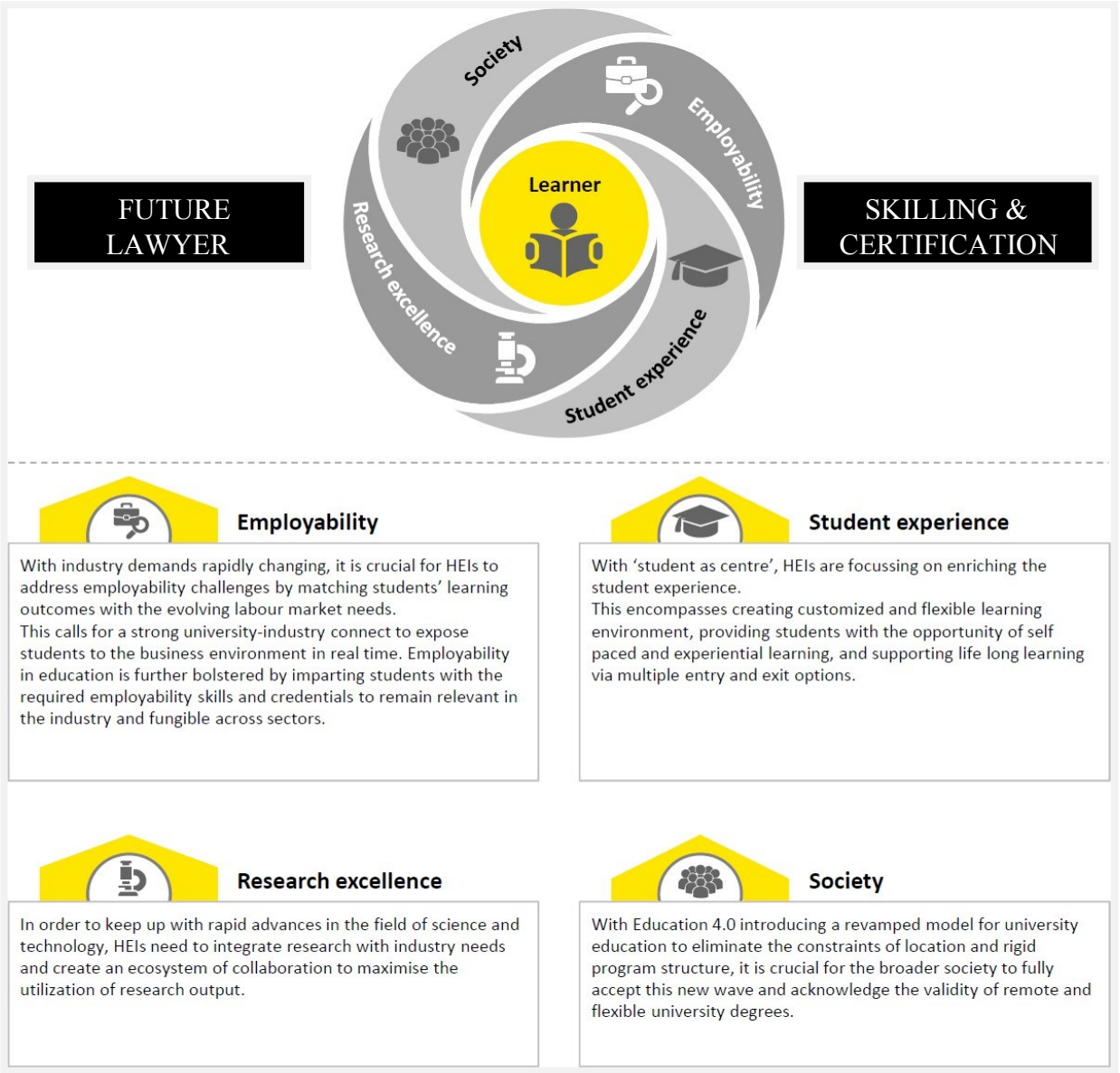
- Mélange-fresher talent show
- Annual MOOT court competition
- National conference on International humanitarian law
- International conference on justice education and AI
- Teaching Seminar on Transnational litigation
- Workshop of Skill lab-Creativity and critical thinking
- National Youth parliament
- National ADR competition
- Workshop on problem based learning

6.8 Strategic Intent and Capabilities

Over the period of next five years ILNU aims to achieve its mission and vision through the following commandments:

1. We want to shape our self as an institution which aims at inclusive academic growth.
2. We want to achieve high level of excellence in academics, research and extension activities.
3. We aim to be ranked in the top 1000 Institutes / universities of the world.
4. We aim to promote high quality teaching and research in diverse disciplines.
5. We aim to promote diversity.
6. We want to provide world-class sustainable facilities that support research and teaching.
7. Continue to maintain our academic, administrative and financial integrity.

6.9 Themes for Strategic Planning



Source: University of Future Report on HE – FICCI 2018

Figure 6.3: Themes of strategic plan

Based on the above-mentioned sections on SWOC Analysis, Benchmarking, study of national law schools / Universities, NIRF Scores, BCI guidelines, New Education Policy and Strategic Plan documents of premiere global Universities, we have arrived at the Strategic Goals in the next section.

6.10 Strategic Goals

From the above-mentioned situation analysis, SWOC analysis and strategic intents, the goals have been chosen as mentioned below:

6.10.1 Goal-1: To Enhance Research and Extension Activities

Aim: Overall increase in research output of the Institute

Strategic Intent: Strengthen the research footprint of Institute / Faculty and Students in order to have a significant impact of policy making and social outreach

STRATEGY 1.1: To increase Minor / Major Research Projects undertaken by ILNU faculty members

STRATEGY 1.2: To increase research publications in national and international Journals

STRATEGY 1.3: Enhancement of extension activities and social impact

STRTAEGY 1.4: To increase number of Doctoral Students

6.10.2 Goal-2: Internationalization

Aim: To integrate and enhance international activities across academic programs, research and development.

Strategic Intent: High significance attached to benchmarking of best practices, collaboration and international linkages for academics, research and extension activities

STRATEGY 2.1: Benchmarking of Best Practices and creating global appeal for ILNU

STRATEGY 2.2: Formation of active and productive MoUs and rejuvenating the ongoing MoUs

STRATEGY 2.3: Enhancements in Faculty and Student Exchange Programs

STRATEGY 2.4 : Increased collaborative research and extension activities

6.10.2 Goal-3: Skill Building & Certification

Aim: Develop and enhance market specific lawyering and advocacy skills for ILNU students and further certify skills at a broader level

Strategic Intent: ILNU should have first mover advantage in the arena of legal skill development and certification.

STRATEGY 3.1: Initiate systematic approach for Skill identification for legal profession

STRATEGY 3.2: Develop 21st Century Skill Sets such as: Transferable skills (Communication, Technology Proficiency, analytical), Meta-cognition, Cultural competency, Critical thinking and problem solving, Collaboration, Agility, Adaptability

STRATEGY 3.3: Skill Certification and proficiency testing at ILNU

STRATEGY 3.4: Initiate Skill Development Training Programs

6.10.3 Goal-4: Employability

Aim: Focus on overall enhancement of competence of students through training and exposure in the chosen field of study

Strategic Intent: The institutional performance is to be measured through generating employability as a value proposition for students.

STRATEGY 4.1: To identify trends in the legal profession pertaining to placement and employer expectations.

STRATEGY 4.2: To develop required skill sets in the prospective candidates who wish to appear for campus placements

STRATEGY 4.3: To establish a well-structured internship program for strong outreach with the employers

STRATEGY 4.4: To develop MoUs with Law Firms and Companies for training and professional development of students.

6.11 Goal Wise Strategies, Targets and Implementation Plan

Goal-1: Implementation Plan

1) Recruit experienced and research focused faculty members
2) Time management and flexibility in working hours
3) Increased administrative support
4) Research Centre activities to be in sync with course delivery and assessment
5) Research Writing Workshops and training programs to be organized
6) Full Time Doctoral Students to be encouraged
7) Extension / Village Adoption / Legal Aid / NSS / NCC to be promoted

Table 6.2: Five yearly targets to enhance research and extension activities

Metrics / Years	2020-21	2021-22	2022-23	2023-24	2024-25
Research Projects	1	2	3	4	5
Publications	4	8	12	18	30
Social Extension Activities / Research	3	5	7	9	11
Increase in number of Doctoral Students	2	4	6	10	15

Goal-2: Implementation Plan

1) Task force to study, travel abroad and exchange information about best practices
2) Structured reforms in University / Institute policies to augment internationalization
3) A team of faculty and student to work on MoU related action points
4) Quarterly review of action taken and regular meetings on major points of references
5) Identification of areas and categories in which faculty exchange and student exchange will result in institutional capabilities

Table 6.3: Five-yearly targets for internationalization

Metrics / Years	2020-21	2021-22	2022-23	2023-24	2024-25
Benchmarking of Best Practices and creating global appeal for ILNU	Reports Programs Policy Reforms	Reports Programs Policy Reforms	Reports Programs Policy Reforms	Reports Programs Policy Reforms	Reports Programs Policy Reforms
Formation of active and productive MoUs and rejuvenating the ongoing MoUs	2	2	2	2	2
Enhancements in Faculty and Student Exchange Programs	2	8	12	15	30
Increased collaborative research and extension activities	2	4	6	8	10

Goal-3: Implementation Plan

1) Identification of various lawyering skills
2) Wide consultation on Skill Certification
3) Registration of courses on skills at NSDA, MHRD – GoI
4) Training and partnering with other organizations / Institutions
5) Wide feedback systems to evaluate skills delivered through ILNU programs

Table 6.4: Five-yearly targets for skill building and certification

Metrics / Years	2020-21	2021-22	2022-23	2023-24	2024-25
Initiate systematic approach for Skill identification for legal profession	Training Workshop 4	Training Workshop 4	Training Workshop 4	Training Workshop 4	Training Workshop 4
Develop 21st Century Skill Sets	Skill Lab Workshop 2	Skill Lab Workshop 2	Skill Lab Workshop 2	Skill Lab Workshop 2	Skill Lab Workshop 2
Skill Certification and proficiency testing at ILNU	Certification NSDA 1	Certification NSDA 1	Certification NSDA 1	Certification NSDA 1	Certification NSDA 1
Initiate Skill Development Training Programs	2	2	2	2	2

Goal-4: Implementation Plan

1) The academic hours are designed in such a way that the students can pursue part-time long-term internship and thereby build their rapport with future employers in advance.
2) To conduct mock interviews at the end of training sessions by an interview panel consisting external as well internal experts for providing feedback.
3) To collaborate with legal recruitment specialists such as Vahura, Michael Page, and Alliance Recruitments etc (names have been suggested for illustrative purposes) for building an understanding of growing needs of legal industry and the recruitment trends.
4) To closely follow the placement data of other well-performing law schools;
5) To closely interact with those employers who come for campus placements and also with those whom we want to come for campus placements;
6) In addition to training sessions by legal recruitment specialists, skill labs from 4th to 6th Semester also conducted and such skill labs shall be mandatory for those students who wish to register for campus placements in the beginning of their 7th Semester.

Table 6.5: Five-yearly targets for increasing employability

Metrics / Years	2020-21	2021-22	2022-23	2023-24	2024-25
To identify trends in the legal profession pertaining to placement and employer expectations.	Survey Expert Sessions 2	Survey Expert Sessions 2	Survey Expert Sessions 2	Survey Expert Sessions 2	Survey Expert Sessions 2
To develop required skill sets in the prospective candidates who wish to appear for campus placements	Mock Sessions 4	Mock Sessions 4	Mock Sessions 4	Mock Sessions 4	Mock Sessions 4
To establish a well-structured internship program for strong outreach with the employers	2	2	2	2	2
To develop MoUs with Law Firms and Companies for training and professional development of students	3	3	3	3	3

Chapter – 7

Strategic Plan of the Institute of Architecture & Planning

7.1 About the Institute of Architecture & Planning

The Institute of Architecture and Planning at Nirma University was founded in the year 2014 with a 5-year Bachelor in Architecture (B. Arch) programme along the vision of great industrialist and philanthropist Padma Shri Dr. Karsanbhai K. Patel, under the leadership of reputed architect, planner and academician Dr. Utpal Sharma and was inaugurated by President of Council of Architecture (CoA) Architect Uday Gadkari, and Pritzker Laureate & Padma Bhushan Dr. B.V. Doshi. Thereafter, Doctoral (PhD) Programme in Architecture was also introduced in 2016.

The undergraduate programme in Bachelor of Architecture (B Arch) is duly recognised by Council of Architecture (CoA) of India. The Institute has launched a 5-year Integrated Masters in Planning course as per the guidelines of by the All India Council for Technical Education (AICTE) and the Institute of Town Planners, India (ITPI).

The Institute aims at imparting high-quality education to inculcate sustainable design of built environment and human settlements through the disciplines of Architecture and Planning.

Within a span of five years, the Institute of Architecture and Planning has become one of the highly regarded and leading institutions not only in the state of Gujarat, but also in India. The Institute is one of the top ranked Architecture & Planning Institutes in Gujarat and ranked in top 20 Architecture & Planning Institutes in India.

At present, CoA periodically evaluate and approve Architecture & Planning programmes respectively according to the norms and standards prescribed for professional and technical courses. The parameters for such assessment include both qualitative and quantitative evaluation. Along with fulfilling the entire mandatory academic requirement, Institute also organizes yearly exhibition of students work with the objective of assurance of quality. The Institute fully contributes in fulfilling all the requirements expected by the National Assessment and Accreditation Council (NAAC) to maintain the standards.

The Institute has also received following awards and recognitions:

1. Indo – Global Architecture Education Excellence Award – 2015 was presented to the Institute for promoting quality education in the field of architecture by maintaining and implementing the high standards of Architectural Education.
2. 'Shri N.K. Patel –GICEA Gold Medal' for excellence in academics to IAP NU students, award by The Gujarat Institute of Civil Engineers & Architects, 2014-15, 2015-16, 2017-18
3. Global Human Resource Development Center, Excellence Award 2019
4. NASA 'Reubens trophy' Citation for the quality of academic work, 2019
5. Dr. APJ Abdul Kalam Education Excellence Award, 2019
6. Bharat Vidya Ratan Award from International Business Council, 2017
7. 26th 'Business School Affaire' and 'Devang Mehta National Education Award' for Director in 2018.
8. Best Paper Award in Student Category at 4th Annual Research on Cities Summit, 2020

The Institute of Architecture and Planning is a preferred institute for studying Architecture and Planning with the high-ranking students opting to join the Institute. The Institute has maintained a good standing academically, due to which students and parents are showing continued interest in pursuing programmes at the institute.

7.1.1 Mission of the Institute

The Institute of Architecture and Planning echoes Nirma University's vision of shaping a better future for mankind by developing effective and socially responsible individuals and organizations. In addition, due to the unique nature of education in the field of built environment, the institute sought and deliberated on feedback from various stakeholders including industry experts, students and academic peers. The concern for environment, sustainability and creating a linkage between profession and society emerged as relevant areas which require a focussed undertaking. Hence, the Institute has further reinforced its mission as stated below:

To create a knowledge center by positioning the Institute at the interface of profession and society while imbibing a concern for environment and sustainable solutions

7.1.2 Core Values of the Institute

Nirma University has formulated three basic core values for all its constituents Institutes.

1) Student Centricity,

2) Contribution to the society, and

3) Quest for Academic Excellence.

Based on these core values, the Institute of Architecture and Planning has further expanded its principles of teaching-learning pedagogy pertinent to the profession and the discipline:

1. **Student Centricity**

The Institute of Architecture and Planning emphasizes on:

- student-centric teaching-learning processes through various tools and technology;
- learning by doing as well as collaborative learning;
- holistic development of the students through extra and co-curricular activities while nurturing lifelong learning skills;
- instilling gender sensitivity and developing professional socialization through student mentoring system; and
- diversity of students from various regions while maintaining a balance in ratio.

Interaction outside the classroom

2. Contribution to the Society

National Service Scheme at Institute of Architecture and Planning

As the disciplines of Architecture and Planning are primarily driven by the necessities of a society, values embedded in teaching-learning pedagogy of the institute are:

- recognize and respond to the societal issues that are key to ethics and principles of learning;
- a multi-disciplinary curricula and teaching learning pedagogy that is aligned to cater to the societal needs and demands; and
- incorporate live issues, social work and problems from society as study areas or projects.

3. Quest for Academic Excellence

In its quest for academic excellence, the Institute promotes the following:

- inter-disciplinary approach in the teaching-learning process and research;
- critical, creative and innovative solutions based on understanding of the problem through relevant analysis, exploration, simulation and digital technologies;
- involvement with the profession, academia, research organizations, alumni and civil society; and
- response to the contemporary challenges of the profession, while encouraging integrity, leadership and team work.

Architectural Design Studio Jury, May 2016

7.1.3 Teaching-Learning Pedagogy at the Institute

Based on the core values mentioned above, teaching-learning pedagogy at the Institute is largely based on:

- An understanding that effective Architecture and Planning education has to locate itself at the junction of the socio-cultural, environmental, technological and economic issues of our times and society; and
- Commitment to the development of socially and professionally responsible individuals who would effectively contribute to the sustainable development of the nation.

The above essentially drive the Institute's teaching-learning pedagogy which is based on:

A. A multidisciplinary approach, and
B. Innovation in Pedagogy.

A. A Multi-Disciplinary Approach

The 5-year B. Arch curriculum is student centric based on a multi-disciplinary approach and the guidelines prescribed by Council of Architecture. All courses outlined in the curriculum are centered in domains of:

a) Profession Core courses;

b) Basic Sciences and Applied Engineering courses;

c) Elective courses, both Professional and Open Electives; and

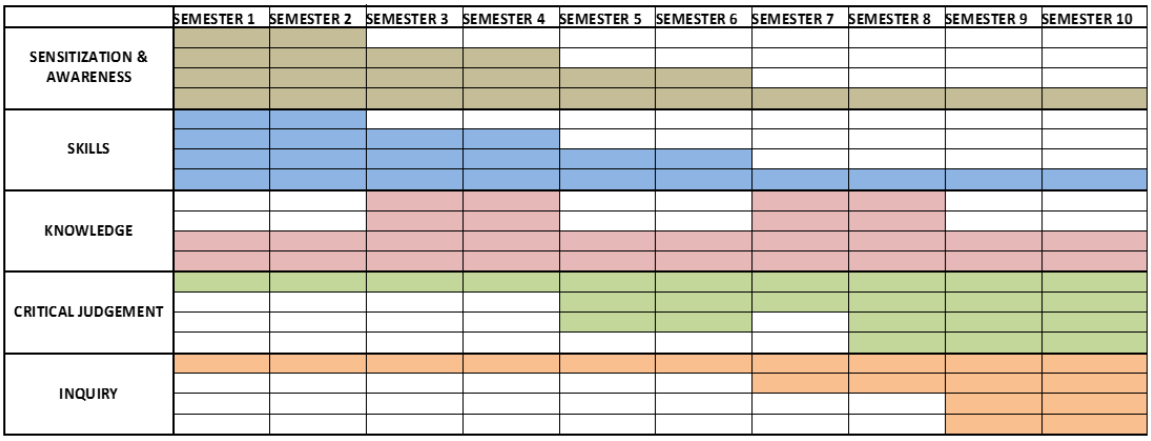
d) Employability and Skill Enhancement Supplementary and Value-added courses.

These domains spanning across the period of five years are from various multi-disciplinary areas such as:

1. Art and Craft which includes Culture and People;
2. Architecture which includes Design, Humanities, History, Theory & Criticism;
3. Technology which includes Building Material, Construction, Technology, Services & Structure, Digital Technologies;
4. Profession which includes Professional practice, Office training; and
5. Environment: Environmental Science & services; and
6. Allied fields such as Urban Design and Regional Planning, Landscape Architecture etc.

The B. Arch Programme curriculum, which spans across the period of 5 year, is designed in a manner with all the core courses focus on 'Sensitization and Awareness', 'Skills' and 'Knowledge' for first 3 years, and 'Critical Judgement' and 'Inquiry' for the subsequent 2 years. The following table shows the distribution of core courses focus for all 5 years.

Table 7.1: Core courses focus distribution for B.Arch. Program



The course contents are taught and learned in lectures, seminars, labs/workshops, studio exercises and design projects, internships and study tours. Lectures are held to teach basic connections and the systemization of theoretical knowledge and the methodology of

scientific work. In seminars the contents are taught in dialogue and discussion phases between the faculty member and the student. In labs/workshops, the contents of the course are delivered through hands-on-work and innovative experiments.

B. Innovation in Pedagogy

Innovation in architecture education revolutionizes not only the way we design or build a space but also the way we experience the built environment around us. The Institute has adopted innovative teaching methods and approaches as a part of teaching-learning pedagogy at the institute. In addition to this, in line with the mission for sustainable solutions, the institute has incorporated curriculum and infrastructure to foster the innovation in pedagogy. Advancement of knowledge in built environment is also based upon the critical questioning of some aspects of the pre-existent and established formal expressions and their underlying values and principles. This pedagogy of critical questioning has been embedded in the education at the Institute. This critical questioning also leads to innovation in pedagogy which is a fundamental to the Architecture education at the Institute.

Following are some of the strategic innovations in pedagogy of Architecture teaching and learning have been adopted by the Institute:

1. Annual Event 'KALP'
2. Installations at the Institute
3. 'Design+Build' Collaborative Workshops
4. Digital Technologies & Processes

The Institute's excellent infrastructure also support creates a conducive teaching-learning environment and helps students in their learning experiences. The Institute has well-developed teaching aids and facilities such as:

Audio-visual enabled classrooms, Studio spaces, Workshops and construction yard, Material museum, Multipurpose hall, Institutional archives and documentation lab, Auditorium, GIS lab, Environment and Climate lab, Conference room, Jury/viva room. Library Resource Centre with well-equipped library information resource, Computing Facility equipped with latest Hardware & Software, Gigabit Campus Area Network, Internet / Intranet Facility, Wi-

Fi Facility and Internet E-Mail Server, Fabrication Laboratory with 3d printer and laser cutter, Ceramic workshop, Wood workshop, Central Metal workshop, Construction yard, Graphic printing studio, and printing facilities.

Some aspects of the teaching-learning pedagogy at Institute of Architecture and Planning are elaborated below:

A. Curriculum,
B. Teaching methods,
C. Diversity,
D. Research & Innovation,
E. Professional and academic collaboration, and
F. Supporting activities.

A. Curriculum

1. Flexible Curriculum

The curriculum consists of core course, elective courses, value added and supplementary courses. Each core and elective course are assigned credits, whether it is theory, practical or workshop based. The curriculum is flexible and student centric approach wherein they can select from a pool of electives as per their interest and inclination. Every student has to complete certain minimum number of credits every semester and a choice of electives allows students greater flexibility to manage their learning objectives and goals within the larger framework of the Institute.

2. Dynamic Multi-disciplinary Course Design

Architecture and Planning core courses are based on multi-disciplinary courses in areas of Humanities, Architecture, Planning, Design, Technology, Skill Development, Professional Practice and Environment. Core curriculum design at the Institute goes through a vigorous cycle of feedback and deliberations from the faculty members, experts, academicians and scholars. Almost 95% of the core courses are designed for skill development, employability, and entrepreneurship.

Architectural student creating the model

3. A wide range of Electives Courses

Students are offered a pool of Institute and University Electives Coursers to choose from. Elective Courses are either very specialized or advanced to the discipline/ subject of study, or which enables an exposure to some other discipline/subject/domain or nurtures the student's proficiency and skills. All electives are designed for skill development, employability, and entrepreneurship.

4. Supplementary Courses

Supplementary courses are conducted by the Institute with an objective to train students with additional skills and rigor of the discipline. They are designed to support, complement and add to the students' knowledge and expertise in their field of study. These courses are also introduced to strengthen their communication, representation and professional outlook.

5. Value-added Courses

The Value-added courses aim to provide additional learner centric graded skill oriented technical training, with the primary objective of improving the employability skills of students. The main objectives of the value-added courses are to provide students an understanding of the expectations of industry, to improve employability skills of students, to

bridge the skill gaps and make students industry ready. to provide an opportunity to students to develop inter-disciplinary skills. Courses offered are chosen based on current trends, relevance and value in the job-market.

6. Related Study Programme (RSP)

Related Study Programme (RSP) are national and international educational study visits undertaken under the guidance of faculty members. They are 3-week long rigorous programmes wherein documentation of historical, vernacular and modern architecture and settlement planning is undertaken through measured drawings, sketches, photography, diagrams, etc.

Related study program at Varanasi, January, 2017

RSP's are active and experiential learning tools wherein students witness the interrelationships of socio-cultural, technological, environmental and economic aspects of our society through careful and thorough inspection, documentation and analysis.

Related study program at Berlin, July, 2017

B. Teaching Methods

7. Studio-Based Learning

Studio based learning is a proven method for active and creative learning process at the Institute. Through the studio-based approach students learn basic creative thinking tools, engage in problem solving models and deal with real-life like problems and challenges under the guidance of multiple teachers. It employs the four fundamental thinking strategies of learning; analytical thinking, reasoning skills, creative thinking and critical thinking. The core course of 'Design Studios' employs learning through reflection wherein the student reflects on their work in an evolving iterative process of design while also integrating the knowledge from several theory subjects.

Studio-based learning at the Institute

8. Hands-On-Experience Through Workshops

Hands-on learning or learning-by-doing is an experiential learning method in which students carry out guided exploratory and experimental activities in workshops and studio-based courses. This makes learning more robust and lasting as students are cognitively engaged in the learning process. It helps them in long-term retention and better transfer of knowledge while understanding practical problems. Students are thus engaged in active sense-making and knowledge construction.

'Design – Build' Collaborative Workshop, 2020

9. Learning & Evaluation Through Juries

Evaluation of all Design Studio is based learning is done through open reviews and juries wherein students explain and defend their design proposals and approaches in front of a panel of faculty and external experts. Studio reviews and juries are also opportunities of 'active learning' for student-faculty groups via engagement in discussions, debates and dialogues on particular design process and ideational approaches as well. Due to this, a culture of open discussions and group learning, peer learning, adopting and adapting to criticism, self-criticism, decision making, team work, work ethics along with communication skills through presentations and proposals is developed among the students.

Architectural Design Studio Jury, May 2016

10. Professional Training and Internships:

Professional office training is generally for a period of one semester and also includes summer internship experience in Planning programme, wherein students get opportunity to learn from the professional and practice environments, work cultures and ethics in core and related disciplines. This experience introduces students to the multi-disciplinary aspect of the field and gives them a chance to interact with stakeholders like contractors, clients, communities, masons & craftsmen, consultants and other related professionals in the field of built environment.

C. Diversity

11. Students with Diverse Background

The Institute's admission policy that ensures that students of the Institute are from different backgrounds and places, nationally and internationally. Student body with such diverse mix harbours cross-learning within students from varied economic, social, cultural and intellectual backgrounds.

Diversity with common aim of learning

12. Scholarship to Meritorious Students

Institute provides scholarships to students in two categories; a. Scholarship based on merit to motivate students, and b. Scholarship based on merit and need to support financially weak yet academically meritorious students. There are some other scholarships provided from Government of Gujarat like Freeship card student scholarship (post metric scholarship for SC student) and MYSY scholarship (merit-based scholarship)

13. Faculty Members with Diverse Background

The Institute's has a team of young, experienced and enthusiastic core faculty members. The Institute follows CoA norms for recruitment of faculty members with varied specializations to maintain a thriving multi-disciplinary academic culture. Faculty members from different geographical locations bringing their own views and perspectives regarding academics and pedagogy. Apart from core faculty group, 25% faculty are visiting and adjunct, with experience and expertise in allied disciplines, practice or research as prescribed by CoA. Such an amalgamation of core, visiting and adjunct faculty creates a diverse mix of academic, research and practice based pedagogic orientations and perspectives in the classroom.

D. Research & Innovation

14. Inculcating a Culture of Research

The Institute promotes inter-disciplinary and multi–disciplinary research culture. Research forms an essential component of education with courses such as Research Seminar, Research Proposal and Undergraduate research thesis as core subjects for senior students. Formation of research clusters and a rigorous mechanism for guiding young researchers assist in effective development of research skills. Research by Design and Design by Research is also promoted in Studio-based subjects.

15. Faculty Research & Development

The Institute has three faculty members with Doctoral degree and some other faculty members are currently pursuing their PhD studies. Faculty members are encouraged and offered incentives for doing PhD from Institutes of national and international repute. Faculty members are also actively involved in doing research, publication and research projects.

Institute promotes research by funding research activity like paper presentation in conferences, publishing articles in reputed journals, book publishing, etc. The Institute also organises Teacher's Training Programme and Seminars for professional and academic development of faculty members on subjects like Urban Housing, Research Methods, Smart Cities etc.

E. Professional and Academic Collaboration

16. Industry - Academia Linkages

Professional engagement gives faculty and students an opportunity to work on live projects in collaboration with the industry. Studio and research projects are also introduced based on the real projects. The Institute has MOUs with reputed firms and organizations to carry out on-field research projects and these collaborations also act as industry-based knowledge resource wherein professionals and experts from these firms are regularly invited for lectures, juries, workshops and seminars at the Institute.

17. Collaboration with National and International Universities

Prof. David Mangin (EAVT, Paris) and Prof. R. Shankar at the Inauguration, 2019

The Institute has joined hands with national and international universities through MoUs and otherwise. These MoUs have opened up opportunities of student exchange, faculty exchange, joint research and publishing, collaborative workshops and sharing of knowledge resources.

Such activities make possible, academics and industry related interaction with foreign students and experts giving crucial international exposure to the community at large

Urban Studio Collaboration with SCET, Surat, 2019

18. Research-based Consultancy

The Institute has initiated research-based consultancy to actively engage with the real problems and issues of society and built environment. These are in form of research and development projects, advisory projects and capacity building initiatives which are primarily aimed at providing innovative and relevant solutions while improving the overall quality of life in towns and cities. Through these research and consulting pursuits, the faculty members are able to expand and apply their academic knowledge and professional expertise to the local administrative bodies, governing authorities, public sector organisations, NGOs and people of the city.

E. Supporting Activities

19. Co-Curricular and Extra-Curricular Activities

Student's body and faculty of the Institute organises KALP, an annual vibrant cultural event, which sees wholehearted participation by all. Students also participate enthusiastically in events and festivals organised by the University and other Institutes. Student delegates also take part in National level events. This provides students with an opportunity to develop leadership qualities, organisational skills, self-confidence and self-esteem, and most importantly teaches them to work and operate as team members.

Students activities during KALP Festival at IAPNU, 2017

The institute hosts annual events such as 'Awards Program for Excellence in Architectural Thesis' conducted by Council of Architecture (COA), through its academic unit – National Institute of Advanced Study in Architecture (NIASA) and NOSPLAN Annual Convention during which participants from all over the country are invited.

20. Extension Activities

Students and Faculty of IAPNU engaged in extension activities at Hajipur Village, Gujarat, 2015

The Institute carries out social extension activities by organising programmes of community service through active participation of student volunteers in NSS activities. Studio exercises also becomes tools for engaging students with, societal and environmental, issues and

challenges of local communities. Such engagements develop an understanding of their role in the society, motivation for community service, empathy for the marginalised, inspiration and confidence of being able to play their part for the larger benefit of the society.

Students and Faculty of IAPNU engaged in extension activities at Dandi, Gujarat, 2019

21. Guest Lectures, Expert Workshops & Seminars

Guest Lectures of international and national eminent personalities, experts, scholars and industry leaders are organised on regular basis. They create an exposure and awareness about current industry trends worldwide, global practices in research, global and local challenges and mitigation strategies, etc. Expert Workshops and Seminars are also arranged to facilitate interaction and learning from acclaimed practicing professionals, which helps to integrate practical aspects with academic approaches, and generates a holistic and critical understanding of the subject.

Following is the list of some of the internationally renowned speakers at the institute;

1. Pritzker Laureate & Padma Bhushan Dr. B.V. Doshi
2. Ar. Steven Holl, Eminent Architect, New York, USA
3. Ar. Lee Sang Leem, journalist and cultural activity creator; South Korea
4. Ar. Nimish Patel and Ar. Parul Zaveri, Eminent Architects, Ahmedabad
5. Ar. Greg Truen, Practicing Architect, Cape Town, South Africa
6. Mr. Kevin Low, Practicing Architect, Malaysia

Internationally acclaimed Pritzker Laureate & Padma Bhushan Dr. B.V. Doshi, Ahmedabad during lecture at IAPNU, 2015

7. Dr. Alpana Shivam, Practicing Architect, Australia
8. Dr. Chinu Modi, Eminent Poet, Ahmedabad
9. Ar. Jaisim Krishnarao, Eminent Architect, Bangalore
10. Prof. Helen Lochhead, Dean of the Built Environment at the University of New South Wales (UNSW), Australia
11. Prof. Giovanni Leone, Professor at University of Venice, Italy
12. Prof. Y. K. Alagh, Expert in Rural Development and Planning, Ahmedabad
13. Ar. S.K.Das, Eminent Architect, New Delhi
14. Dr. D.S. Meshram, President, ITPI, New Delhi
15. Prof. Jaimini Mehta, Architect and Academician, Vadodara
16. Prof. Jamal Ansari, Eminent Planner, New Delhi

Internationally acclaimed Architect Steven Holl, New York, USA during lecture at IAPNU, 2015

22. Student Mentoring System

The Institute has developed a unique and compassionate way of Student Mentoring System; where in mentoring becomes an integral part of the professional education. Each mentor faculty shares personal skills, knowledge, and expertise for the professional development of the students. Students are encouraged to develop their own strengths, beliefs, personal attributes and provide them with challenges that will foster professional development and a feeling of accomplishment in learning the field.

7.1.4 Thrust for Quality Enhancement

Institute of Architecture and Planning at Nirma University continuously thrives for imparting an excellent teaching/ learning experience and conducive environment for the all-round development of students. The Institute aims towards quality enhancement to fulfil the aspirations of the students. Efforts are also put for enriching the skills of the faculty members to acquire higher competence. The motive is to create an Institute where students and faculty members, both, grow as a professionally and technically capable community for overall growth of industry and society.

Exhibition of Students work during KALP festival, 2020

7.2 Need for Strategic Plan

7.2.1 Architectural Education

The mother art is architecture. Without an architecture of our own we have no soul of our own civilization. – Frank Llyod Wright, an American architect, interior designer, writer, and educator

Architecture is an amalgamation of art, science and culture encompassing the social, functional, technological and environmental aspects of a society. Architecture, as a discipline, not only inculcates and perpetuates the culture from one generation to another but also give a meaningful direction to a society. It is also a profession that dates back to ancient times, with a profound impact on the built environment of the civilizations all over the world.

In Indian subcontinent, the early indications of buildings and settlement design could be seen from times of Indus valley civilization in 2600 BCE. The building and its elements developed into a craft and expert workmanship known as 'Vastu Kala'. This art and science of designing buildings and settlements developed in 'Gurukuls' where teacher and pupil tradition were prevalent. These traditions further developed into 'Master' and 'Apprentice' relationship and a more formal education system introduced during the colonial era thereafter. Post-independence, few institutes emerged imparting and defining education in Architecture.

Today, architectural education has evolved to a more diverse multidisciplinary field which tries to respond to the variations in the complexity of issues within the society. Education in Architecture thus combines the dynamics of society and profession with the aim of imparting knowledge to students who would be responsible for evolution and shaping of the human civilization.

Therefore, the main objective of education in architecture is to provide a knowledge base of profession with proper teaching pedagogy or techniques. New inventions and technology have also broadened the scope of architectural education programme. Due to this, the following aspects have emerged:

- Creative skills of a student have a very wide scope in the related professional disciplines and it opens many avenues of opportunities towards a promising career;
- New multi-disciplinary learning has also opened up the possibilities of creating synergies with other professions such as management, law, engineering, design and social sciences.
- Various inter-disciplinary programmes like Urban Design, Landscape design, Heritage and Conservation, Urban Housing, Town planning, Interior design, and Construction Management etc. provides specific yet interconnected knowledge base.

Today, architectural education must connect with the scope of related professional disciplines in every respect in order to expand students' comprehension and preparedness. While this is presently followed at the Institute, through professional training, internships, visiting faculty teaching, project-based learning, study abroad and practice models of many

kinds, it needs to be strengthened as per pace of change in this 21st Century. The most important aspect of this strategic plan is about the adjustments in the immediate future to remain viable as an exemplary professional Institute. This involves curricular change, pedagogical change, and a change in relationship of Architecture education and the profession.

7.2.2 Strategic Plan of the Institute

The Strategic Plan of Institute of Architecture and Planning at Nirma University is an important document that:

- helps chart out a focus and direction;
- guides and directs the Institute to the future activities and expected outcomes;
- provides an opportunity to assess relevance of existing programmes;
- helps to synchronize objectives, goals and action plans of the programmes with vision and mission of the University and the Institute; and
- assists in identifying opportunities and preparing for future challenges.

Panel discussion on 'Architecture Education' during KALP festival, 2020

Since the teaching-learning processes of Architecture and Planning are embedded in ever changing and evolving geographical, socio-cultural, economic, urban and technological

contexts; the course & curriculum and learning outcomes, the pedagogical aspects of these programmes have to be continuously updated with latest scenarios in these related fields. By responding to present trends and by getting an insight into the future, the Institute has made the Strategic Plan to keep the programmes relevant to changing societal scenarios and have made sure that constructive contributions continue in the years to come.

Having completed the first academic cycle, the Institute is now positioned to carve out a unique identity for itself. Through this plan, the Institute's aims to set a direction for the next 5 years which will make it a leader in imparting education in the fields of Architecture and Planning and make a mark at the international stage as well.

The Institute's strategic plan has been developed through discussion and deliberations with faculty members, members of board of studies and academic council. Feedback from various stakeholders including students, academic peers, industry experts, alumni and parents was also considered while finalizing the strategic plan. A holistic approach involving every stakeholder of the Institute was taken in identifying the key strategic goals, targets and implementation plan.

An in-depth assessment and analysis of the educational environment and the Institute was first carried out. Overall educational trends and their implications were examined for the growth of the Institute. In addition, while developing the strategic plan, several policy documents and reports published by the Government/Non-Government organisations were also studied carefully. A few of the important documents are mentioned below:

- World Economic Forum & World Urbanization Prospects 2014
- GBER Global Built Environment Review, UK
- The Millennium Development Goals Report (2015) of the United Nations
- CoA Minimum Standards for Architectural Education 2017
- ITPI notifications for the B Plan and Integrated Masters in Planning programmes
- National Education Policy 2020
- Strategic Plan for the Institute of Architecture & Planning, Nirma University for the Duration of 2014-2019

7.3 Environmental Analysis and Assessment

7.3.1 Present scenario of Architecture Profession

Since ancient times, the profession of Architecture has shaped the built environment of our society. However, with the rapid evolution of available technologies, and the integration of them into the profession, the role of an architect is changing faster than it ever has before. We are in a new and dynamic realm of both Architecture and Planning profession due to following factors:

- The Indian government's 'Smart Cities Mission', which aims to develop 100 sustainable and citizen-friendly cities all over the country, needs to integrate the professionals from Architecture and Planning;
- Similarly, Ahmedabad which has been bestowed with World Heritage City status also needs to engage the Conservation Architects and Planners;
- In context of Global Built Environment scenario, role of Architecture and Planning profession is becoming more critical; and
- Rapid urbanization, proliferation of slums, degradation of natural resources and changing lifestyles have also impacted the profession.

Hence, because of the above,

A. Highly qualified and competent professionals in the field of Architecture, Urban Design and Urban Planning are required,
B. The disciplines of Architecture, Urban Design and Urban Planning would need to go beyond functional aspects of designing buildings and cities while adopting a multi-disciplinary approach, and
C. Inter-disciplinary expertise would need to be developed with various aspects like building performance, city design, land utilization, energy conservation, sustainability, ecology, landscape, heritage conservation, affordable housing, infrastructure and public transport etc., at both micro and macro levels.

It is imperative that the role of the Architect and Planners be acknowledged more strongly, especially in the transforming and urbanization of Indian cities. Thus, a re-evaluation of curriculum and pedagogical methods is also required in Architecture and Planning program in the country. It is clear that educational preparation is key to sustain these professions.

7.3.2 International Scenario

The UN estimates that 55% of the global population lives in urban areas – a figure that is projected to rise to 68% by 2050. With few exceptions, cities are expected to become bigger and more numerous. As Urbanization speeds up, particularly in Asian and African countries, following are the five of the biggest challenges confronting the future of cities:

1. Environmental Threats,
2. Resource depletion
3. Inequality
4. Appropriate use of Technology, and
5. Governance and Institutional framework

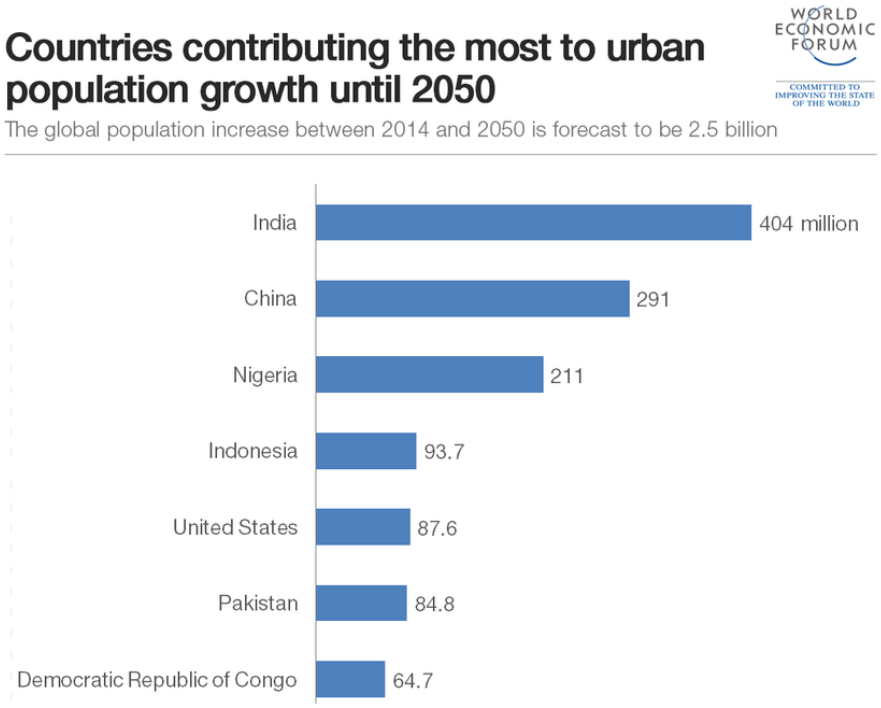


Figure 7.1: Urban population growth scenario

Source: World Urbanization Prospects 2014

It is clear from the above that the urban population growth will be highest in India and China. There will be rapid emergence of different type of cities, from very large megacities to small agglomerations in these countries. However, many of these cities would also be facing the challenges related built environment.

As per Global Built Environment Review (GBER), the broad themes that are to be addressed with regard to the overall built environment include the following:

- Cities in transitions and the changing factors which affect the built environment.
- Roles, performance and limitations of the architects, planners and environmentalists towards sustainable development/environment.
- Adaptability or resistance of the people to the changing built environment
- Role of politics, dominant culture, ethnicity, religion and consumerism in shaping the built environment and their impact on people.
- Critical analysis of the debates and perspectives documenting similarities, uniqueness or global interdependence.

(Source: GBER Global Built Environment Review, UK)

Internationally, Architecture and Planning profession is focussed on areas of environment, sustainability, creating lively neighbourhoods and processes of Urbanization in the cities. Integration of Urban Planning and Architecture, and the role of Architects in the planning of cities, are also being explored. There are also several conversations about how Architecture and Planning professionals can better society be engaging governmental bodies, environmentalists, citizens and psychologists.

7.3.3 National Scenario

Urbanization is one of the biggest challenges facing India as 400 to 800 million people are expected to migrate into cities in the coming decades. The total population of country residing in urban areas is expected to reach 40% by 2030. As a result of this, large and small cities will undergo a dramatic transition with deep economic, political, social, cultural and ecological impacts. The rapid growth will create an urgent need to address the issues related to 'Built

Environment' and 'Sustainable Development' in majority of Indian cities. Our future hinges on this urban transition being handled with wisdom and alacrity.

- The fundamental constraint in the equitable and orderly growth and transformation of urban India is neither capital nor technology**.** The chief impediment is the availability of sufficient numbers of well qualified professionals committed to the common good who can play the role of urban change-makers**.**
- The process of India's urbanization if adequately organized and managed, with wisdom, foresight and a focus on implementation and detail; can change the everyday urban realities. Thus, there is an urgent need of forming a robust 'National Urbanization Policy'.
- Built Environment integrates and combines different aspects of development – both tangible and intangible, through physical manifestation and helps in creating a better society and living environment. As a result of this, two challenges emerge:
    1. The quality of the built environment in our towns and cities, i.e. well-designed buildings, streets, neighbourhood's and districts; and
    2. The balance between resource conservation and the quality of life of the people essential for successful social, economic and environmental regeneration.

Above challenges could only be mitigated and solved with the engagement of well informed, trained and highly qualified and competent professionals in the field of architecture and built environment.

7.3.4 State Scenario

The state of Gujarat's vision is to make it a global place to live in with sustainable growth driven by robust industrial, physical and social infrastructure. As a result, the state is developing at a rapid pace in several sectors including its urban infrastructure and built environment.

As part of central government's 'Smart Cities Mission', Ahmedabad, Vadodara and Surat have already been selected in the initial lists. In expanded list, Rajkot, Gandhinagar and Dahod have also been included. With these inclusions, six Gujarat cities are among the 90 cities chosen to be developed as 'Smart Cities'.

In addition to that, Dedicated Freight Corridor (DFC), Delhi-Mumbai Industrial Corridor (DMIC) and Gujarat International Finance Tec-City (GIFT) city has provided additional impetus to the state. The Government of Gujarat is also the first state in India that has enacted a legal framework for the SIR – The Gujarat Special Investment Region Act – 2009 that will enable the State Government to establish, develop, operate and regulate the Special Investment Regions (SIR).

Ahmedabad, a World Heritage City, has combined a high degree of consciousness for traditional architecture and an openness to new ideas. Once, a center of Architecture profession, it has four Le Corbusier's buildings and Louis Kahn designed Institute of Management which defined the movement of modern architecture in Ahmedabad. This has been further augmented by Pritzker Laureate & Padma Bhushan B.V. Doshi and his works along with several other eminent architects who made Ahmedabad as their profession base. The presence of IIMA, NID and other eminent Institutes also ensured that the city becomes a center in imparting higher education.

The state, thus, is well placed to lead the development of its urban areas, public spaces and city planning. Therefore, the state education in the field of Architecture, Urban Design and Urban Planning needs to be equipped with cutting edge knowledge and practices to deal with above opportunities while creating environmentally, socially and economically sustainable solutions.

7.4 Competitive Analysis: Strategic Grouping and Benchmarking

There are more than 550 institutions in India, training a new generation of professionals, in the field of Architecture and Planning, who will be engaged with the future of our built environment. These programmes are being run in IITs, SPAs, NITs, State Universities, Private Universities, Deemed Universities, Affiliated colleges, etc. On completion of undergraduate studies, a graduate becomes eligible for applying for CoA registration for Architectural practice in India. Planning graduate seeks professional membership with ITPI.

In Gujarat, there are about 35 Institutes having UG programmes in Architecture and 5 Institutes PG programme in Architecture. They range from grant-in-aid college, departments of universities, Institutes having affiliation with State Universities, Colleges in private universities and Institutes as a part of deemed universities.

7.4.1 Strategic Grouping

Over the years, Architecture and Planning profession have become matured and comprehensive. However, the total number of trained professional Architects and Planners are not enough to fulfil the requirements arising due to the rapid urban growth scenario in the country, both in urban and rural sector.

Architects, in general, always limit their services to the elite people and organizations within urban areas. As a result, only 5% of the buildings in urban areas are designed by professional Architects. In absence of professionals, the rural and peri-urban areas have various shortcomings associated with basic shelters and quality of built environment and infrastructure. This necessity has raised, with regard to the professionally trained Architects and Planners, to help tackle various shelter related issues that will ultimately lead to a healthy environment and living.

However, there is a gap between professionals required and number of graduating students in the discipline of Architecture and Planning. As a result of this gap, many institutes of Architecture and Planning have sprung up in the recent times.

Following is the summary of status in regard to the Architecture and Planning Institutes:

- Many Institutes are relatively new and have not developed teaching and learning pedagogies and multi-disciplinary programmes;
- There is a shortage of qualified faculty members and infrastructure in many Institutes;
- The cumulative effect is fast leading to falling standards in Architecture and Planning profession;
- Many Institutes also have collaborative programs with international universities and Institutes.

- Students exchange, Faculty exchange as well as combined international design charrettes are also one of the major activities at premier Institutes.

7.4.2 Benchmarking

As part of the Strategic Planning process, the Institute has identified following Institutes of eminence with international recognition for benchmarking.

1. School of Planning & Architecture (SPA, Delhi)

The School of Planning and Architecture began in 1941, is now a specialized University, which exclusively provides training at various levels, in different aspects of human habitat and environment. The School has taken lead in introducing academic programmes in both at Bachelor's and Master's level, some of which are even today not available elsewhere in India. The School, in striving for excellence, has always been in the lead in extending education and research to new frontiers of knowledge. Human habitat and environment being the basic concern of the School, the spectrum of academic programmes is being continuously extended by providing programmes in new fields and emerging areas. The School had broadened its horizon by introducing new academic and extension programmes and promoting research and consultancy activities.

Recognition:

A. Recognizing the specialized nature of the fields in which the School had attained eminence, in 1979, the Government of India, through the then Ministry of Education and Culture, conferred on the School of Planning and Architecture the status of "Deemed to be a University".
B. It was recognized as "An Institute of National Importance under an Act of Parliament" in 2015.

2. The Manipal School of Architecture & Planning (MSAP, MAHE, Udupi)

The Manipal School of Architecture & Planning (MSAP), started in 1978 with Bachelor of Architecture course. Today, it offers multi-disciplinary courses in Architecture, Urban Design, Interior Design, Fashion Design & Management and Sustainable Design at undergraduate and post-graduate level. The Institute has the following major emphasis areas, which are integrated in the curriculum and pedagogy:

- Urban & Environment Management
- Urban Sociology & Healthcare
- Sustainable Built Environment
- Heritage Conservation & Management
- Behaviour Psychology in Built-Environment & Participatory Design

Recognition:

1. MSAP is ranked 10th among top architectural schools in the country,
2. In NIRF, 2018 and is also ranked 8th among all colleges, government or private by Outlook, the weekly news magazine.
3. It is an Institutional Member, of Indian National Trust for Art and Cultural Heritage (INTACH), New Delhi.

3. Centre for Environmental Planning and Technology (CEPT, Ahmedabad)

CEPT has maintained academic and administrative autonomy and with an innovative program and has emerged as a centre of excellence with international recognition. CEPT University comprises five faculty members: Architecture, Planning, Technology, Design and Management and it runs 5 UG and 18 PG Programmes along with Doctorate program in Architecture and Planning.

CEPT University has created a vibrant environment of interdisciplinary collaboration and innovation focused on issues concerning human habitats. The CEPT Research and Development Foundation (CRDF) is organized under different thematic verticals identified as ‘Centres’, each focused on a specific area of study and research. CRDF is also an active partner in some of the world's most influential coalitions and forums such as the Global Cooling Prize, Sustainable Sanitation Alliance, ASHRAE, Global Water Partnership and Transport Research Board that focus on innovation in sustainable technology, policy and planning.

Recognition:

1. The Department of Scientific and Industrial Research (DSIR) of the Government of India recognizes the University as a Scientific and Industrial Research Organization (SIRO).
2. India's leading academic institution in the field of built environment.

Table 7.2: Comparative matrix for identified institutes

Name of Institutions			
Comparable Attributes	**School of Planning & Architecture (SPA, Delhi)**	**The Manipal School of Architecture & Planning (MAHE Udupi)**	**Center for Environmental Planning and Technology (CEPT, Ahmedabad)**
UG programmes	2	3	5
PG programmes	6	4	18
Doctorate programmes	Yes	Yes	Yes
Consultancy Cell	Yes	Yes	Yes
International Collaboration & Partnerships	Yes	Yes	Yes
Recognition/Ranking	Ranked 5 (NIRF 2020), Institution of National Importance under the Act of Parliament in 2015	Ranked 12 (NIRF 2020), Institute of Eminence by HRDM	Ranked 4 (NIRF 2020), Leading academic and research institution in India

Key learnings from Benchmarking

In view with the above benchmarking, the Institute of Architecture & Planning envisages some of the key learning areas for defining the 5-year strategic plan as mentioned below:

1. Introduce Multi-disciplinary programs/ courses/ specialization at UG, PG and Doctorate level;
2. To integrate and incorporate Research and Consultancy project in various areas related to the human settlements and built environment;
3. To Collaborate with various eminent Institutes and organizations at both, national and international level; and
4. Establish several 'Centers' of Excellence engaged in research projects, advisory assignments and capacity building initiative etc.

7.5 SWOC Analysis

7.5.1 Strengths

1. Excellent regional reputation with some national recognition and developing international footprint.
2. Well placed closed-loop feedback system for curriculum development encompassing all the stakeholders.
3. Well-disciplined conducive academic environment and ambience.
4. Active linkages with industries and practicing professionals.
5. Excellent and adequate built-up infrastructure like studio, workshops, etc.

7.5.2 Weaknesses

1. Limited consultancy, sponsored research activities and research projects.
2. Limited domain focussed 'Centres'.
3. Limited interdisciplinary programmes and research.
4. Absence of Post Graduate Programmes.
5. Less number of PhD candidates enrolled.

7.5.3 Opportunities

1. Collaboration with Indian and foreign institutions of repute for research and academic activities.
2. Multidisciplinary and collaborative learning with the departments of the University.
3. Establishment of research chair positions for boosting research, innovations and faculty competence.
4. Participate in industry practice by strengthening the consultancy cell.
5. Attract international faculty members from collaborating institutes.

7.5.4 Challenges

1. Competition from other national and local level Institutes.
2. Attracting and retaining quality and experienced faculty members.
3. Motivated Ph.D. students and faculty members for enhancing research outcomes.
4. Obtaining externally funded research grants and consultancy projects.

7.6 Strategic Goals

The Strategic Plan was developed considering the following factors:

1. Vision, Mission and the Core Values of Nirma University
2. Present Educational Scenario in Architecture & Planning profession
3. Frameworks of the Accreditation and Ranking Agencies
4. SWOC Analysis of the Institute of Architecture & Planning

After several meetings and discussions with all faculty members and other stakeholders including experts from the professional field, it was decided to first identify the important themes to be determined for the next five years. Subsequently, strategic goals were formulated. And for each specific goal, strategies were identified. Also, the targets were finalized for each goal for the next five years starting from the academic year 2020-21.

The important themes are highlighted below:

1. Academic Excellence & Pedagogy
2. National & International Collaboration
3. Enhancing Research Outcomes
4. Faculty Development & Competence

Institute of Architecture & Planning formulated following Strategic Goals based on the above themes:

1. To build upon academic excellence by expanding on institutional knowledge base and adopting innovative pedagogy.
2. To establish national and international associations and collaborations with the research organizations, universities, NGOs and governments bodies.
3. To improve research, consultancy and innovation.
4. To improve the qualification, professional skills and competence of the faculty members.

7.7 Strategies, Targets and Implementation Plan

To achieve the formulated goals, following Strategies and Targets have been identified along with its Implementation Plan.

Goal-1

To build upon academic excellence by expanding on institutional knowledge base and adopting innovative pedagogy.

Strategies

1. Introducing multi-disciplinary P G Programmes and Minor Specializations in areas of Architecture, Planning, Engineering and other allied fields.
2. Introduction of new inter-disciplinary 'Elective Courses' and 'Value-added Courses' to further strengthen the concept of Choice Based Learning.
3. Revising the curricula of the B. Arch programme.
4. Adopting innovative pedagogy with an emphasis on students' learning by introducing 'Labs' (Laboratories) such as Material & Technology lab., Media lab., Environmental lab., Fab. lab and Sculpture/Art lab.

Targets

Table 7.3: Five yearly targets to build upon academic excellence by expanding on institutional knowledge base and adopting innovative pedagogy

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
New PG programmes to be offered	Int. M Plan in Urban and Regional Planning with specialisation in a) Infrastructure b)Housing and Real Estate + 1 Minor course	M.Arch in Urban Design + 1 Minor course	M. Arch in Architecture (Heritage & Conservation) + 1 Minor course	M.Arch in Landscape & Int. M.Plan in Environmental Planning + 1 Minor course	Int M.Plan in Environment & Climate Change, Transport Planning + 1 Minor course

New Inter-disciplinary Electives & Value added Courses	4	4	5	6	7
Curriculum Revision	B.Arch &	B.Arch	B.Arch & Int. M Plan	B.Arch & M.Arch	B.Arch M.Arch
Innovative Pedagogy techniques through 'Labs'	Fab. lab.	Transport lab	Digital Architecture	Remote Sensing & Photogramm etry Lab	Media lab

Goal-2

To establish national and international associations and collaborations with the research organizations, universities, NGOs and governments bodies.

Strategies

1. Strengthening the existing MoUs by increasing collaborative activities and develop new linkages with reputed international universities.
2. Establishing new associations and collaborations with the premier national and global industries & research organizations.
3. Contributing to solving the societal issues through the extension activities by joining hands with the NGOs and civil society groups.
4. Build strategic partnerships to interact with government bodies at various levels to participate in live project and training in addition to research and consultancy projects.

Targets

Table 7.4: Five yearly targets to establish national and international associations and collaborations with the research organizations, universities, NGOs and governments bodies

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Number of collaborative activities under the existing MoUs	2	2	3	3	4
New MoUs with International Universities	2	2	3	3	5
Number of extension activities with NGOs	2	2	3	4	5
New Strategic Partnerships with Government bodies	1	2	2	3	3

Goal-3

To improve research outcomes, consultancy and innovation.

Strategies

1. Fostering research orientation at UG level and enhance research at PhD and PG level to increase research outcomes through high quality thesis, research papers, working papers and publications in journals of national and international repute.
2. Increase total number of both, university and external funded, major and minor research projects.
3. Actively engage in Design & Research Consultancy Projects, advisory & advocacy assignments and capacity building initiatives aimed at solving critical problems in society & built environment through collaborative funded research projects and training assignments.
4. Establishing domain focussed ‘Centres’ as a hub of research and knowledge sharing and building activities with various stakeholders.

Targets

Table 7.5: Five yearly targets to enhance research outcomes, consultancy and innovation

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Increasing research outcomes	20	30	30	40	40
Number of Major & Minor funded research projects	4	5	5	6	6
Design & Research Consultancy projects as interface between Academia & Practice	2	4	6	8	10
Establish Domain focussed 'Centres'	Smart Cities	Sustainable Technology & Material	Heritage & Conservation	Environment & Climate Change	Digital Architecture

Goal-4

To improve the qualification, professional skills and competence of the faculty members

Strategies

1. Encouraging faculty members to acquire PhD and enrolling for PDF (post-doctoral fellowship) programme.
2. Facilitating for STTP – Short term training programs, seminars, workshops and exchange programmes.
3. Motivating faculty members for research writing and increase international and national participation in conference and paper publications of high quality.
4. Encouraging faculty members to participate in various academic and professional activities with IIA, COA and ITPI for better visibility.

Targets

Table 7.6: Five yearly targets to improve the qualification, professional skills and competence of the faculty members

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25
Faculty members enrolling for PhD studies or PDF program	50%	60%	70%	80%	90%
Faculty members to be deputed for STTPs, seminars/ workshops, exchange programmes	50%	55%	60%	65%	70%
International and National conference and papers publication per faculty	1	1	2	2	2
Percentage of faculty involved in various academic and professional activities with IIA, COA or ITPI for better visibility	10%	10%	15%	20%	25%

7.8 Monitoring and Alignment: Structure and Systems

The Strategic plan will require a systematic and periodic inputs and outputs and co-ordination among various stakeholders. For its effective implementation, the Institute will closely guide and monitor the progress at two levels,

Institute Level Committee

The Institute Level Committee will have the following members:

- Director
- Academic Co-ordinator
- Institute IQAC Coordinator
- Senior faculty Co-ordinators

The Institute Level Committee will meet at least twice in six months and review the progress of the Strategic Plan. The Committee will guide the Institute level teams and faculty members in effective implementation of the Plan. The progress reports will be submitted to the University by the Institute Level Committee.

Institute Level Teams

The Institute Level Teams for identified areas will have the following members:

- Academic Co-ordinator
- Institute IQAC Coordinator
- Senior faculty Co-ordinator
- Junior faculty members

The Institute Level Teams will hold review meetings on regular basis (at least twice in six months) and see that the plan is implemented effectively. Each team will discuss the progress, difficulties being faced by the Institute, probable solutions, new initiatives to be taken, etc. Each team will also send its report to the Institute Level Committee.

The Vice President and Director General would be informed about the implementation progress and their suggestions would be incorporated. Periodic meetings will be held with the University level Committee and the members of statutory bodies. Various inputs and discussion on the implementation will also be sought from Board of Studies, Academic Council and Governing Board which are held twice a year.

Chapter – 8

Strategic Plan of the Nirma University

8.1 About the Institute of Commerce

8.1.1 Preamble

The quality of education imparted to the young minds determines growth, empowerment, a sense of belonging, as well as the overall progress of a particular region, state or country. Professional education at large, especially in Agriculture, Commerce, Law, Management, Healthcare and Technology is, however, offered largely in silos of respective domains and separate from higher education in core Sciences. The isolation deepens further as domain specific universities are being established separately. Although the efforts in professional education have been focused - mainly on making students "job ready" or "industry ready" -, the outcomes in terms of "being employable" leave a lot to be desired.

The education of business, economic and reporting etc. with values becomes vital for business, creation of jobs, improvisation of the living standards, and alleviation of societal problems. It is very closely related to economic standing of a country across the globe. It, therefore, becomes very important to undertake a periodic review of the curriculum and course content of the programmes to ensure that they are up to date and are effectively fulfilling the requirements of the country at par with international standards. The advances in reporting requirements and complex business environment itself impact a lot on the pedagogy of teaching and stresses on preparing life-long learners, a breed that can take up the challenges of the coming era. There will be a greater need for close collaboration between industry and institutions to drive innovation, foster creativity, support interdisciplinary research and skill development.

The focus in this strategic plan is to develop the students' knowledge base, skill sets and making them employable through curriculum reforms. It also envisages to makeover the faculty and preparing them for imparting the requisite skills, improve research and development. It is also desired that the institute is brought on the world map and the activities are initiated in this plan.

Founded in the year 2016, on the vision of Padmashree Dr. Karsanbhai K Patel, the Institute of Commerce, Nirma University symbolizes the principles of brilliance, excellence and

professionalism. It aims to impart top-class education in the fields of Accounting as well as Banking, Financial Services and Insurance (BFSI) sector. The Institute is a centre of learning where knowledge fuels the desire for distinction, and serves the changing needs of the industry.

The campus infrastructure and amenities are comparable to any reputed university around the world to provide students with state-of-the-art learning ambience. The Institute is committed to ensure all-round development of its students so that they are ready for the challenges of the professional world.

The Institute of Commerce believes in serious academic pursuit by means of a prudent mix of relevance and rigor in its curriculum design and delivery to impart relevant skills, knowledge and ideas through intellectually stimulating debates and discussions, innovative teaching pedagogies and exposure to relevant industry practice at all levels The Institute of Commerce, a center of learning where knowledge fuels the desire for distinction and aims to serve the changing needs of the industry.

The academic ambience of the Institute gives wide scope to students for plenty of group activities in the frame of extra-curricular and extramural activities. Exposure to such environment helps the students develop sound fundamentals, good communication skills, an integrated personality and greater competitive spirit. The alumni are placed on the key positions at KPMG, Ernst & Young etc. with average package of INR 3 LPA.

Apart from academics, the students of the Institute of Commerce have left their mark at various co-curricular fronts. They have participated in activities conducted at national, state and university level. The Institute students secured first two places at the state level case competition organized by the ISTD during the year 2018 as well as in the year 2019 and secured medals in various sports events. Many students won Brilliant Performance Award at National Accounting Talent Search Examination, organized by Indian Accounting Association. They are also registered for various certifications including training provided by the Chartered Institute of Management Accountants (CIMA), Tally Education Pvt. Ltd., National Institute of Securities Markets (NISM), All India Management Association (AIMA), etc.

The Institute of Commerce is also aiming to emphasize on Outcome Based Education (OBE), Experiential Education (through Project Based Learning), and research in thrust areas with translational impact.

8.1.2 Challenges in the Field of Education

Globalization has resulted in many new challenges in the field of the education system not only in our country but also around the world. With the growing modernization, the demand for trained workers is also increasing day by day. Also, with the demand is rising the hunt for the quality. This scenario has also led to a lot of challenges in the field of education in our country. The knowledge and analytical skills of this workforce have to be regularly updated. The graduates coming out of our institution should be capable of meeting the challenges of the modern industry and the question is what are we really capable of this?

The union government is giving impetus to the manpower development with global competence to capture global requirement. In the budget significant money has been provided to Higher education, and other initiatives such as Skill India, Start up India, Make in India and Stand up India.

Modern India has a strong need for transparent and effective financial reporting, be it to improve the way of doing business or to be on a par with global standards. Academic institutions are strategic assets of a nation, contributing to both, national prosperity and national security. Successful institutions have strong links with local communities and industry, and contribute to the city, the region and the nation's development and growth. It is recognized that commerce has a major role in transforming lives. Creating an enabling environment for innovation and entrepreneurship is thus a key activity for progressive educational institutes.

8.1.3 ICNU's Thrust for Quality Enhancement

Institute of Commerce - Nirma University continuously thrives for providing all the ingredients needed for the conducive environment for the all-round development of students. The Institute always inches towards quality enhancement to fulfil the aspirations of the students. Efforts are in turn also put for enriching the skills of the faculty members to acquire the needed quality enhancement. The motive is to create an institute where students and faculty members, both, feel satisfied and grow as a community for overall growth of industry and society.

Vision of Nirma University

Shaping a better future for mankind by developing effective and socially responsible individuals and organizations.

Mission of Nirma University

Nirma University emphasizes the all-round development of its students. It aims at producing not only good professionals, but also good and worthy citizens of a great country, aiding its overall progress and development.

Within the context of the University as a self-financed, student-centered private university, the aims of the Institute are to offer outstanding programs at undergraduate and post graduate levels; offer continuing education programmes; to be a research leader advancing the frontiers of accountancy and commerce through increasingly multidisciplinary initiatives; and to serve the society and industry as an agent of commerce, economic, and educational innovations and advancements. On this base, the vision and mission statement of the Institute is established.

Vision of Institute of Commerce

ICNU strives to widen the knowledge of its students beyond the boundaries to enable them to be in tune with tomorrow so as to contribute their best in the economic and social empowerment of the nation.

Mission of Institute of Commerce

Institute of Commerce, Nirma University emphasizes the all-round development of its students. It aims at producing not only good professionals, but also worthy citizens of a great country, aiding in its overall progress and development.

To realize this mission, we shall:

1. Provide contemporary and involved educational experience that develop their commerce acumen.

2. Provide strong Academic and industry interface for skill development and placement support.

3. Provide training and internship opportunities that prepares students for outstanding learning outcomes and evolving career goals keeping in the tune with the changing business environment.

4. Integrate global awareness, communication skills, leadership qualities and team building in the pedagogy.

5. Ensure provision of dynamic faculty dedicated to teaching, mentoring and research.

8.2 Need for Strategic Plan

8.2.1 Strategic Planning Process

The institute should come out with strategic planning that has well-defined strategic goals, implementation strategy, long-term outcomes, balancing act of teaching and research, strategies to global footprint, asset building strategies, keeping in mind achievable outcomes. Various methodologies are to be devised to achieve these outcomes. Robust and feedback-based system will be required to follow the strategic plan. While preparing the strategic plan, vision and mission of the University was the main guiding principle. Availability of resources, environment analysis, SWOC analysis, future projected growth and direct and indirect feedback of various stakeholders were also considered in formulating the strategic plan for the next five years. The entire plan is developed based on thorough discussion and deliberations at different levels. Apart from the Heads of Departments, the some of the faculty members of the institute were also involved in planning.

8.2.2 Organization of the Strategic Plan

The Strategic Plan of the Institute is finalised after various development stages. The Institute endeavours to analyse the external environment of the institution and then scrutinise the internal structure. The implementation and monitoring of the Strategic Plan is also included in this report.

The strategic plan of the Institute of Commerce consists of:

1. Environment analysis

The section consists of International Scenario, Country Scenario, Education Scenario, Regulatory Framework and Governmental Role. Websites of reputed Indian and Foreign Institutes and other policy documents were studied to carry out environment analysis.

2. Educational scenario

Indian educational scenario is presented in this section and the significance of regulatory framework is discussed. Emphasis is also laid on the governmental role for the growth of the education sector.

3. Competitor analysis

Higher education in India has undergone a great change. The surge in number of institutions and then a significant consolidation has helped only able institutes to survive. Competition posed by International Scenario, reputed National Institutes and local Institutes is discussed in this section. Benchmarking analysis with reputed institutes is also done.

4. Institutional analysis

Analysis of Institute with respect to Strength, Weakness, Opportunity and threat/challenges is presented in this section.

5. Strategic goals

For achieving desired strategic intent, key goals are identified in this section based on environment and competitive analysis.

6. Strategies to achieve the goals

Various strategies for achieving goals are presented in this section.

7. Targets of strategies and implementation plan

Clear targets of various strategies are reported in this section. Detailed action plan for achieving strategic goals including tentative duration is framed in this section.

8. Assessment of constraints

Constraints faced by Institute and posed by regulatory bodies are discussed in this section.

9. Institutional leadership, systems, structures and staff for implementation

Hierarchy of institute leadership is discussed. For the set goals and strategies, formation of various committees and sub-committees at University / Institute / Department levels can be done keeping in mind this hierarchy and time-lines can be set accordingly for stages of implementation.

8.3 Environmental Analysis and Assessment

Strategic planning is a dynamic process which needs frequent checks and time-to-time fine tunes of the strategies and its implementation plans/actions. It begins by articulating the purpose, values, and aspiration that guide the collective pursuit of excellence, as presented in goals, but it does not end with merely the statements of the goals. Rather, it continues under the process of ongoing assessment, including the evaluation of the conditions under which the plan is developed and implemented – conditions that may change over the five-year life of the plan. It is important to note that while the environment may shift and thus demands some adjustment of our plans, however, values, aspirations, and the goals to which we are collectively committed will remain constants.

8.3.1 International Education Scenario

Traditional roles within the local workforce are becoming redundant or altering significantly for a multitude of reasons, including functions becoming progressively automated or being moved offshore. This is causing an increased emphasis to be placed on life-long learning, to up skill a mature workforce, ensuring that individuals can competently perform their roles.

As a stream of study, commerce has evolved into a diversified program to meet the needs of stakeholders who require a curriculum containing additional courses along with full time degrees that provide them with ready and immediate access to required knowledge and skill sets for the industry. This has the further advantage of targeting an employer's investment in an employee's education.

This changing scenario has led to the introduction of more specialized courses at national and international levels. Institutions are adopting the academic structure having multiple activities to promote, develop and strengthen the international tie-ups for exchange

programmes and research cooperation among the institutions and the industry based on equality and mutual benefits. Apart from that, the institutions are collaborating with the professional bodies for development of more effective curriculum which would enrich students with specialized skills at graduation level.

In tune with this, ICNU is also in the process of finalizing MoUs with foreign universities to provide students with international exposure. It also invites professors from international institutions for a short-term duration from time to time and selected students from institute are felicitated to do internships in various international universities and institutions.

8.3.2 Indian Scenario

Commerce education and research are interrelated terms which include broad areas of Finance, Human Resource, Marketing, Accounting, Entrepreneurship Development, Business Laws etc. To promote economy of our nation, there is requirement of professional commerce community, accountants, and economists with sophisticated practical and IT knowledge, to develop, evaluate and examine the market of the large scale business firms and other allied sectors.

Till now, commerce education used to be considered as general stream of education. However, in response to the growing needs and complexity of business, commerce education is branching out into several specialised fields to prepare graduates both for the world of the work as well as self-employment. In harmony with the requirements of the business and society, independent professional courses have emerged in the form of Chartered Accountancy (CA), Cost and Management Accountancy (CMA), Company Secretary (CS) and CFA. Hence, for a commerce programme to be relevant for the growing industry, it needs to be an academic discipline giving comprehensive education.

Thus, our institute has designed the curriculum in such a way that it facilitates all aspects of business environment and also play significant role to improve quality of commerce education. Commerce, which is a high-flying department in any educational institution, has got more recognition nowadays than ever before. The range of subjects included in B. Com (Hons.) programme offered by various Universities include cost & management accounting, financial accounting, production & operations management, financial management,

economics, business laws, administration, human resource management, organizational behaviour, strategic financial management, E-commerce, M-commerce etc.

Institute of Commerce also has entered into MoUs at national level for academic collaboration with the following stakeholders:

- Gujarat International Finance Tec-City (GIFT) SEZ
- Chartered Institute of Management Accountants (CIMA)
- Trust 24 (Authorised training partner of Tally education limited, for providing tally software training)
- KPMG (for employability & industry readiness workshops).
- AIMA (for employability & soft skill workshops)

The Institute developed the B.Com. (Hons.) curriculum in consultation with the various stakeholders and also aligned it with the model curriculum proposed by UGC. As outlined above we have entered into various strategic partnerships and are in the process to enter into many more to provide our students with a unique learning environment.

8.4 Education Scenario

Partnerships and increased number of international students both from Indian diaspora and of foreign origin. Given the historical advantage in higher education the wide spread use of English language and low cost living, India can potentially become a global hub for higher education. Greater autonomy to our Institutions of higher learning to enter into collaborative partnership with the best universities abroad to offer joint / dual degree programmes, collaborative research and staff / student exchanges may prove to be an important milestone in this direction.

The commerce education has emerged in specialised forms such as Chartered Accountant (CA), Company Secretary (CS), Cost and Works Accountant, Management Accountants, Business administrator etc. to meet the growing needs of the business and economy. Therefore, it has become imperative to enter into strategic partnerships with such professional bodies to offer programmes combining both theory and practice.

8.5 Competitive Analysis and Benchmarking

8.5.1 Competitor Analysis

Every industry has specific dynamics. Detecting these dynamics and customer behaviour is vital to prepare for the competition as gathering competitive intelligence makes one understand better the requirements of the industry and future potentials. In the context of commerce education, there has been a huge change during past few decades in terms of content, pedagogy and focus to meet the changing needs of business and industry.

There are many eminent commerce colleges with the primary objective of preparing students for the business field or career advancement to climb the ladder of success. This is expected to grow in decades to come resulting a greater opportunity for the institute to offer its programmes to a larger number of students.

8.5.2 Benchmarking

Gerald Balm defines benchmarking in the following way: 'The continuous action of comparing a process, a product or a service with a similar activity, known as being the best in that field, with the purpose of establishing ambitious but real improvement objectives and actions so as to become and keep the number one position among the best within a reasonable period of time.'

Thus, Benchmarking is a measurement of the quality of an organization's policies, products, programs, strategies, etc., and their comparison with standard measurements, or similar measurements of its peers. For this purpose, we studied the profiles of four renowned institutions offering commerce programmes:

Shri Ram College of Commerce, Delhi (SRCC): It is one of the most prestigious and oldest institutes of higher education for commerce and economic studies. Its main objective is to achieve and sustain excellence in teaching and research, enriching local, national and international communities through our research, the skills of alumni, and the publishing of academic and educational materials

To provide corporate exposure to students, college actively encourage a close interaction between what is taught in the class how that knowledge is applied in the corporate world also develop a research cell to boost research profile of students and faculty members which encourages faculty members and students to publish their research work in the national and international journal. For career and personality development functions of skills and professional expertise in a spectrum of student and faculty, it has also developed Center for innovation, Incubation and entrepreneurship (CIIE) to create an environment that promotes and stimulates the spirit of entrepreneurship among the students of college.

Kirori Mal College (KMC), Delhi: It is an institution of academic excellence, established in 1954, that has always strived to, and successfully maintained its place as one of the finest within the University of Delhi. The institute believes in providing for our students an environment rich in knowledge and supportive of their extracurricular interests. The college encourages a quest for knowledge that is rooted in an ethical understanding of the world that we inhabit and this enthusiasm for learning along with a desire to evolve into socially responsible beings is reflected not only in the academic atmosphere but also visible in the field of extra-curricular activity. The main endeavour of the institute is to make individuals more mature, responsible and socially aware.

The Department of commerce has been actively participating in grooming of students as well as providing them with enormous opportunities time and again. The institute provides a platform for interaction with industry in the form of summer internship, projects, guest lectures and educational trips. The Commerce Society organizes its academic fest and publishes a magazine annually. Supported by the very motivated and active faculties, the institute of commerce is continuously putting efforts to carry on the good work and continuously build on the strong foundation that has been laid by University.

CHRIST (Deemed to be University), Bangalore: The Christ College, Bangalore is a premier educational institution, an academic fraternity of individuals dedicated to the motto of ‘EXCELLENCE AND SERVICE.

'The university strive to reach out to the star of perfection through an earnest academic pursuit for 'excellence,' and the efforts blossom into 'service' through creative and empathetic involvement in the society to transform it.

The Department of Commerce, is the oldest and largest department of the University, believes in developing and nurturing global competencies in students through quality education, research and continuous innovation. It provides a proficient environment to nurture commerce professionals with a high level of knowledge and competence to effectively contribute to society with commitment and integrity.

The department also provides value added professional programmes and certifications through recognized global bodies such as Institute of Management Accountants (IMA), USA, Chartered Institute for Securities and Investment (CISI), UK and Insurance Institute of India (III) in recognition of excellence in the provision of higher education in the fields of financial services. The Christ University Commerce Association (CUCA) provides platforms to kindle innovation, nurture skills and build leaders through various Commerce and cultural activities.

H.L. College of Commerce (HLCC), Ahmedabad: Hargovandas Lakhmichand College of Commerce (HLCC), the fountainhead of Commerce Education in Gujarat, is the first college established by the Ahmedabad Education Society (AES) in 1936. The college has made significant contribution in the field of commerce education in the last eight decades since its inception and has earned a name for its high academic and disciplinary standard. The college has been at the forefront in practicing innovative teaching methods and has imparted value-based quality education to generations of students.

Along with excellence in academics, H L College of Commerce lays strong emphasis on all round development through intellectual, cultural, sports and other enriching exposure.

Table 8.1: Competitive analysis

Particulars	HLCC	KMC	SRCC	Christ
Courses Offered	B.Com	B.Com	B.Com (H)	B.Com
	M.Com	B.Com (H)	M.Com	B.Com (H)
	-	-	PG Diploma in G.B.O.	B.Com (Strategic Finance H.)
	-	-	-	M.Phil
	-	-	-	Ph.D.
Professors	5	-	-	4
Associate Professors	2	2	21	11
Assistant Professors	6	10	20	41

In view with above benchmarking for different activities, the Institute of Commerce envisages to be one of the leading Institutes providing commerce education at undergraduate and postgraduate levels. The institute plans to excel in teaching and support services, faculty development, and research. In the long run the Institute will focus on benchmarking with International Institutes of repute.

8.6 SWOC Analysis

8.6.1 Strengths

1. Excellent local, regional and national reputation and recognition as part of the Nirma University.
2. Young, dynamic and dedicated faculty and staff members aligned with institutional goals.
3. Learner centric approach along with personalized attention to the students.
4. Meritorious students with geographical diversity.
5. Well placed closed-loop feedback system for curriculum development encompassing all the stake holders.
6. Transparent management policies with well-defined procedures.
7. Well-disciplined conducive academic environment and ambience.
8. Active linkages with nearby industries and organizations.
9. Strong commitment and dedicated efforts towards overall personality development of the student.

8.6.2 Weaknesses

1. Small number of faculty members which leads to relatively high academic and administrative load on faculty members.
2. Limited industry and research exposure for faculty members due to overwhelming workloads.
3. Absence of global exposure to faculty and students
4. Absence of strong alumni base as the institute is among the latest on campus.

5. Absence of Master's and Ph.D. programme leading to lack of research ambience within the Institution.

8.6.3 Opportunities

1. Ideal geographical location.
2. Encouraging and enabling environment provided by NU and Government policies
3. Collaboration with Indian and foreign institutions of repute for benchmarking, research and academic activities.
4. Developing interdisciplinary academic programme in emerging / thrust areas.
5. Maximizing impact on teaching-learning through faculty enrichment by quality improvement.
6. Recognitions by outshining in student achievements across the country and abroad

8.6.4 Challenges

1. Existence of educational institutions of repute in the vicinity.
2. Fast changing higher education landscape in the country which involves new institutions of repute in the vicinity as well as entry of foreign Universities.
3. Challenges in recruiting faculty members at senior level to build wide spectrum of expertise for teaching, research and consultancy.
4. Identification and counselling the slow learner students and orienting them towards studies and career remain a challenge.

8.7 Strategic Goals

8.7.1 Strategic Goals of the Institute of Commerce

Strategic goals of the institute include:

1. To emerge as the highly respected and focused learning institution

2. To enhance faculty competence and visibility

3. To improve research, consultancy, innovation, and extension

4. To expand footprint globally

5. Comprehensive Engagement

8.7.2 Strategies to Achieve the Goals:

Goal-1: To emerge as the highly respected and focussed learning institution

Strategies

1. Development of effective curriculum to cater to the industry needs.
2. To offer industry oriented online courses leading to certification and adding value to graduates
3. Facilitating industrial internships/Visits for enhancing industry-readiness and employability of students
4. Establish a placement centre at the institute to support regular placement**.**
5. Introducing new multi-disciplinary PG programs including a part time PhD programme.
6. Improving performance of students in competitive and professional exams

Goal-2: To enhance faculty competence and visibility

Strategies

1. Improving qualification of existing faculty members by deputing them for Postdoctoral Fellowships / Doctoral (PDF/PhD) programmes
2. Recruiting highly qualified faculty members
3. Imparting training to faculty members through participation in industrial training, STTPs, FDPs, workshops, seminars, refresher courses, etc.
4. Encouraging faculty to participate in various academic and professional activities (outside NU) for better visibility

Goal-3: To improve research, consultancy, innovation and extension

Strategies

1. Fostering research at UG level.

2. Modernizing existing infrastructure; establishing centres of excellence/new research facilities
3. Sustaining and improving research outcomes through high quality research papers, collaborative funded research projects, consultancy, training etc.
4. Nurturing innovations, start-ups and entrepreneurship through technical mentoring and support

Goal-4: To expand footprint globally

Strategies

1. Increasing study abroad programs, internships and projects at Universities/organizations globally
2. Attracting more international students for academic interface/internships/projects and inviting foreign faculty/experts for long/short term assignments
3. Enhancing Institute collaborations with national and international institutions of repute.
4. Preparing for international level accreditation and ranking

Goal-5: **Comprehensive Engagement**

Strategies

1. Establishment of Centre of Excellence for Micro, Small and Medium Enterprises.
2. Development of short-term training/ executive development programs.
3. To attend and organise the seminars / interactive sessions with industry leaders.
4. To involve alumni in matters relating to development of students.

8.8 Strategies, Targets and Implementation Plan

The following matrix shall guide us to implement the planned activities for achieving our strategic objectives. The activities once started shall be continuous in nature and monitored / modified/ amended as the need may be:

Goal-1: To emerge as the highly respected and focussed learning institution

Table 8.2: Five yearly targets for emerging as the highly respected and focussed learning institution

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25	Implementation
Development of effective curriculum to cater to the industry needs	1				1	Review of B Com Hons Curriculum in through Multi stakeholder workshop And introduction of specialisations
To offer industry oriented online courses leading to certification and adding value to graduates	1		1		1	Designing courses (one every two years) in collaboration with industrial authorities
Facilitating industrial internships/Visits for enhancing industry-readiness and employability of students	100%	100%	100%	100%	100%	Monitoring internship program to be more comprehensive and conducting visits
Establish a placement centre at the institute to support regular placement		1				To help with placement of increased number of students
Introducing new multi-disciplinary PG programs	1*	1**		1**		* Part time PhD Programme ** Master's Programme
Percentage of students qualifying the competitive/ professional exams	5%	10%	15%	15%	20%	Mentoring and encouraging students for such exams

Goal-2: To enhance faculty competence and visibility

Table 8.3: Five yearly targets to enhance faculty competence and visibility

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25	Implementation
Improving qualification of existing faculty members by deputing them for Postdoctoral Fellowships (PDF)/PhD programmes	1	1	1	1	1	Deputing one member every year
Recruiting highly qualified faculty members	2	2	1	1	1	Filling vacant posts of Associate Professor/Recruiting senior professors
Imparting training to faculty members through participation in industrial training, STTPs, FDPs, workshops, seminars, refresher courses, etc.	2	2	3	3	3	Number of colleges to benefit each year (Apart from those offered at NU)
Encouraging faculty to participate in various academic and professional activities (outside NU) for better visibility	3	3	3	4	4	Duration: One week and above, at least once during three years

Goal-3: To improve research, consultancy, innovation and extension

Table 8.4: Five yearly targets to improve research, consultancy, innovation and extension

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25	Implementation
Fostering research at UG level	5	5	10	10	15	Number of students participating with faculty in research
Modernizing existing infrastructure						It is proposed to buy office equipment and software for research
Establishing CoE/ research facilities	1			1		
Publications in journals/conferences	5	10	15	15	20	Motivating faculty for research through policies and incentives
Major research projects	1	2	2	2	3	
Solving local societal problems through linkages with NGOs, and local government	1	2	2	3	3	Cumulative number of initiatives (Adoption of villages, joint activities)
Promoting innovations, start-ups and entrepreneurial ventures	1	2	3	4	5	Cumulative number of initiatives (Helping students to identify innovations and potentials)

Goal-4: To expand footprint globally

Table 8.5: Five yearly targets to expand footprint globally

Metrics/Year	2020-21	2021-22	2022-23	2023-24	2024-25	Implementation
No. of students proceeding for higher studies at Universities abroad	2	5	5	5	5	Number of students each year after completion of UG programs
No. of students/faculty pursuing internship/project at organizations abroad	2	2	5	5	5	Number of students each year (During UG/PG programs)
No. of foreign students visiting NU campus for academic interface	-	2	2	5	5	Appropriate policy to be framed, more MoUs to be implemented
No. of foreign faculty/experts visiting NU campus	2	2	5	5	5	Faculty members to apply for grant for inviting foreign faculty/experts
No. of collaborative research proposals to be submitted to international organizations	1	1	2	2	2	Faculty members to apply for enhancing multi-institute collaborations and research funding

8.9 Monitoring and Alignment: Structure and Systems

8.9.1 Assessment of Constraints

- Recruiting good faculty members and developing wide spectrum of expertise across the disciplines is always a constraint.
- The programmes offered by the Institute are of non-residence nature, this also plays very vital role in hampering the boost in the research environment and productive research outcome.
- Difficulty in obtaining research grants from government agencies and bodies being a constituent of the self-finance university.

Dependence on the tuition revenue is also to be reduced by identifying and exploiting the sources of endowment for sustainable growth

8.9.2 Institutional Leadership, Structure and Systems for Monitoring

There exists a very streamlined hierarchy of the leadership at University level and Institute level. There are various committees for implementation and monitoring of specific activities.

For effective internal coordination and monitoring at institute level there are at least two meetings every month. As and when need arises more meeting are convened to address issues at hand.

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Appendix -1-IMNU

Parameter-Wise Scores of Institutes in the Aspirational Group (between NIRF Rank 15-42 in 2019)

Institute	**NIRF Data (2019)**		**Teaching Learning & Resources**	**Research & Professional Practice**	**Graduation Outcomes**	**Outreach and Inclusivity**	**Percept-ion**
	Rank	Score	30%	30%	20%	10%	10%
			100	100	100	100	100
IIT, Madras	15	58.4	68.33	36.09	77.8	63.04	52.11
SPJIMR	16	55	74.15	16.23	96.64	71.08	21.13
NIT, Tiruchillapally	17	57	60.63	42.86	76.4	64.25	28.05
Great Lakes	18	55.09	81.04	15.96	84.93	69.56	20.37
IIM, Raipur	19	53.86	70.36	18.5	89.98	73.19	18.8
Symbiosis, Pume	20	53.56	74.85	8.75	94.47	67.17	28.69
NMIMS, Mumbai	21	53.56	74.13	16.01	90.00	70.06	15.06
IIT, Kanpur	22	53.37	66.41	45.54	59.42	52.34	25.76
IIM, Rohtak	23	53.11	59.9	28.95	88.61	66.21	21.13
IIM,Shillong	24	53.11	76.57	8.47	92.23	54.9	35.62
IIM, Kashipur	25	52.76	75.23	18.57	85.9	60.66	13.73
ICFAI, Hyderabad	26	52.17	70.43	23.87	78.18	77.56	10.45
IMI, Delhi	27	52.17	69.42	21.74	84.01	67.38	12.82
IMI, Ranchi	28	51.02	65.06	8.27	91.02	68.32	39.92
NITIE	29	50.96	51.15	37.46	86.24	54.9	76.34
Kalinga Institute	30	50.95	73.95	16.97	76.73	67.43	15.92
IIFT, Delhi	31	50.56	65.64	15.32	85.76	58.31	32.87
ISM, Dhanbad	32	49.94	72.05	41.34	49.23	35.6	25.08
TAPMI	33	48.55	58.97	19.19	85.00	66.75	14.17
Jamia Milia Islamia	34	48.42	64.00	22.83	72.93	69.86	7.95
FMS, Delhi	35	48.29	49.87	8.44	96.16	65.83	49.9
LIBA	36	48.26	68.9	1.25	84.84	65.88	36.41
PSG, Coimbatore	37	47.58	63.56	15.87	73.8	51.74	38.2
Fore, Delhi	38	47.44	68.16	10.17	84.4	63.73	6.9
BHU, Varanasi	39	47.27	66.13	16.16	75.94	51.72	22.24
Nirma	40	47.22	76.19	9.25	72.15	64.67	6.9
IMT, Ghaziabad	41	46.81	55.22	20.94	81.61	63.96	12.36
Alliance	42	46.53	69.11	7.4	81.38	65.11	7.95