INDUSTRY CONNECT FRAMEWORK (ICF) FOR INSTITUTIONS OF HIGHER EDUCATION

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ABSTRACT

This paper examines the need for industry and academic collaborations in developing countries. It draws on the inputs taken from the senior leaders of Industry & Academia who are the active members of such forums responsible for bridging the gap between these two sectors. A unique Industry Connect Framework is proposed in this study which step by step details upon the process to be followed in establishing a purpose-oriented engagement with the Industry (Subject Matter Experts or the Enterprises) for the benefit of the Academic Institution and its students. The study provides further scope to explore and embrace the mediums, methods, and avenues for such mutually rewarding connections between Industry and Academia with the help of proposed ICF for HEI's.

Keywords: Framework, Higher Education, Industry Connect, Placements, UGC

INTRODUCTION

As per the UGC Quality Mandate, Letter to all Vice-Chancellors, approved by the commission in its 532nd meeting held on 25th May 2018, for improving the quality of education at the institutions of higher education, one of the approved objectives of meeting exclusively focuses on encouraging social & industry linkages with students and the academic institutions so that at least 66% of students must be engaged in social productive events during the period their academic voyage with the University/ Institute. The minutes of the meeting also emphasize making learning at the Academic Institutions outcome-based, enhancing student's soft skills, enhanced use of ICT during lectures, train the trainer and making faculty highly competent in making their student's industry-ready.

In September 2019, a Working Group Report on Enabling and Enhancing University and Industry Linkages submitted to The University Grants Commission embracing the need for strong Industry-Academia Linkages in developing countries like India where there is a huge gap in functioning, expectations, and the reality. Due to this gap, a little innovation and scope of research and development are observed. Unlike in developed countries, Industry and Academia Relations are nurtured and are in practice for over 4 decades now. India, a hub of more than approximately 1000 Universities lags in terms of leveraging Industry & Academia Relations as there is no formal structure or framework to have strong Industry Connect at the Institutions of Higher Education despite knowing all the adhering benefits. A lot of work is done in proving the importance of Industry Connect with Academic Institutions. However, no visible work is done in developing a framework to have Industry Connect. This study proposes a unique framework for Institutions of Higher Education to have purpose-oriented and measurable Industry Connect.

Academic Institutions across the globe are in an endeavour to provide the best in the class learning environment to their students, scaling up the level of innovation & research, remaining flexible in terms of adopting newer trends and technologies to make students learning more engaging and rewarding (Serdyukov, 2017). Teaching & producing future-ready leaders who are competent enough to lead the change and prove worthy enough to work towards the betterment of society and take the name of its Alma Mater and Proud

Nation on greater heights is only one part of the success of any academic institution (Mittal, 2020).

Another most significant vertical for an academic institution is the acceptance of its students by the industry, their recognition, and growth (Kromydas, 2017). To achieve this goal, academic institutes need to help their students to lay the robust foundation of their career during their academic journey itself. After graduating from a University, students must have a clear road map along with the opportunity in hand to move further in their chosen career path. A survey is conducted with engineering students from across the years (1st to 4th) to identify their career aspirations upon graduating from the University.

Academic Institutions thrive to extend support to their students to achieve all the goals that they have aspired for themselves. Along with students, the University needs to meet the expectations of parents who have shown great trust in the philosophies and administration of the University. As per the trends, Universities, these days provides a strong ecosystem for their students to convert their ideas & aspirations into reality and reaching their all-perceived goals. Universities have dedicated infrastructure, committed manpower, and resources to help students to achieve their goals and sometimes even helping them to identify them (Brusoni, 2014).

Amongst all, the majority of students have a common purpose even before the commencement of their academic journey with any institution of higher education *i.e.*, to obtain a world-class job opportunity from the University which they wish to cherish lifelong (Shashikanth & Pranay, 2016). The same is being observed from the Aspirational survey done with over 4000 students of the engineering domain.

Purpose

During unprecedented circumstances, such as the outbreak of pandemic COVID-19, the standard functioning of systems even at the educational setups has got impacted like any other business or service unit (Joshi, Vinay & Bhaskar, 2020). But the availability of resources learned faculty and flexibility to tune the entire functioning according to the prevailing circumstances, support from government and higher education regulatory bodies across the globe have tremendously helped academic institutions to have the uninterrupted flow of educations (Teräs et al., 2020). Industry Connect during the times of Pandemic carries even higher significance when compared to usual times. Without getting proper guidance or inputs from the industry it will become impossible for the universities to design learning or skilling modules for students to make their students industry-ready (Rana et al., 2020). Like in the physical world, although the University is taking a lot of initiatives to keep the learning continued and have its students engaged it is strongly desired that University should have a roadmap or perfect plan to ensure the hassle-free starting of the corporate life of its students. The purpose of this paper is to attempt to develop an Industry Connect Framework with the help of which Institutions of Higher Education can plan build strategies and with a focused approach connect with industry to fetch perceived goals.

Research Objectives

a) To study the career aspirations of university students upon getting graduated and relate it with the significance of Industry Connect for an Academic Institution.
b) To develop a unique Industry- Connect Model for Institutions of Higher Education.

RESEARCH METHODOLOGY

The current study is based on exploratory research as well as an extensive literature review. The data has been collected from various primary and secondary sources. The initial phase of research which is exploratory is conducted to examine the need or problem and

frame the research questions (Brown, 2006). This has helped us to maintain flexibility while moving ahead in research rather than having a fixed mindset and adhering to the prognostications.

As a part of an extensive literature review, we explored journals, research papers, various governmental reports, business models, marketing frameworks, media articles which provided a substantial base to the research and its prognosis. Since the area and the iterated research questions carry newness, a deeper analysis of the previously done work was performed. An aspirational survey was conducted for over 4000 students of an institution of higher education. All the students were from the engineering domain from different years/ semesters. Considering all the career options/possibilities after Graduation, a questionnaire was prepared and shared with the respondents. Basis the likeness or the pre-decided career goals students submitted their response.

With the help of an Open-ended interview technique (through various means) was adopted to develop the framework which befits the need of Industry Connect with the help of Industry Experts and Veterans of the Education fraternity. Basis the congregation of inputs as well as extensive study of Marketing, Business, Education Success Models & Frameworks, a unique Industry Connect Framework is proposed for the Institutions of Higher Education.

Trends at the Institutes of Higher Education

The Universities in India & abroad generally have strong and visible establishments responsible to engage corporate for various purposes, which further encompasses strong teams and thereafter perfectly backed by a Unit of Faculty to cater to the career development needs of students (Chouhan, Devi & Singh, 2018). The functional establishment at the University are termed with different terminologies, varies from institute to institute such as Training & Placement Cell, Training & Placement Division, Corporate Resource Centre, Centralized Placement Cell, Industry Interaction Cell, Career Centre/Division, Placement Cell, Others. Apart from dedicated training and placement teams, many institutions have strong support mechanism to cater to enhanced training and career options supported by Institute/ University level administrative and academic staff including Head of Department, Head of Institutes, Deans, etc. along with additionally appointed or engaged Faculty from core domains (Rana et al., 2018). The institutions also have meticulously designed placement guidelines to ensure the perfect conduct and commitment from all *i.e.*, students as well as placement in-charge(s) (Aithal & Shenoy, 2016).

An Aspirational Survey of students from the engineering domain was conducted from all semesters to review their career aspirations after graduating from engineering school with the help of a questionnaire. The students have responded over below broadly asked question: a) Looking for campus placements, b) Joining family business, c) Wants to start your venture, d) Going for higher studies, e) Preparation for entrance examinations for higher studies, f) Preparation for professional qualification & g) Preparation for competitive examinations.
A total of 4613 students participated in this survey. The response of students consists of below distribution (Table 1):

Table 1
CAREER ASPIRATIONS AFTER GRADUATION AND RESPONSE OF STUDENTS

Aspiration Type	Number of Students
Looking for Campus Placements	2691
Join Family Business	23
Want to Start Own Venture	333
Interested in Higher Studies	758
Prepare for Entrance Exams for Higher Education	447
Prepare for Professional Qualification	52
Prepare for Competitive Examinations	309

The broader verticals which usually a fresh university graduate plans to execute include Starting Career with Job which carries the highest percentage of all the response *i.e.*, 58%, followed by Joining an Academic Institute for Higher Education, then Plan for a preparatory gap for Higher Studies or Competitions (Jobs), Come up with their ventures is preferred over Joining Family Business whereas students having plans for preparing for competitive examination and professional qualifications are kept under other plans (Figure 1).

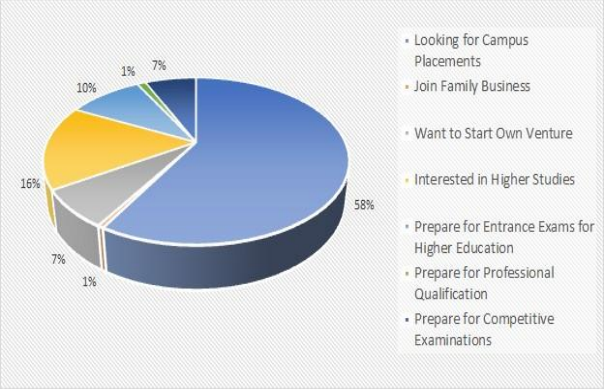

FIGURE 1
CAREER ASPIRATIONS AFTER GRADUATION

Continuing with the response of students in the aspirational survey, at academic institutions, students with intent to move into corporate life or start their professional life with a Job, ideally have 2 tracks for moving ahead (Figure 2):

FIGURE 2
OPTIONS FOR STUDENTS SEEKING JOBS

Government Sector

Jobs are announced at the national level. Students need to compete huge population across the nation who applies for specific government jobs. Government setups have their pattern of hiring and cannot be governed or managed by any education system. Students need to prepare themselves to grab opportunities in the government sector.

Private Sector

The majority of students of any academic institutions, who are planning to start their professional lives through a job befitting their qualification and caliber look forward to Private Sector. The private sector comes with a variety of career options, huge pay, and perks and comparatively more convenient or handy for students to appear and qualify as the competition is very limited and sometimes specific to the related set of students only.

Industry Connect Framework (ICF) for HEI's

As per the Framework of Industry-University Linkage in Research by the Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India, 2019 regular interactions and linkages with the industry have a positive impact on the placements of students at PAN India Universities. Not only placements, but the report also suggests that there is an incremental growth in terms of filing patents, joint research, technology up-gradation, and entrepreneurial setups with strong industry and academia connections.

With the thorough review of the literature and as per the inputs of leaders from Industry and Academia, the study proposes an Industry Connect Framework which details upon the procedure or exercise to be followed by Institutions of Higher Education while establishing a connect/ linkage with any industry. As per Wang, et al., (2009), a framework supports the structure and process to perform any business so that we may not miss any important aspects during the process (Salwa, Sudarsan & Ramanan, 2016).

The process of Industry Connect Framework for HEI's includes (Figure 3)

Need Analysis

Institutions should know and understand the purpose behind Industry Connect. This should not be correlated with the objectives of the industry as they are specific. While looking at the organizational structure and their status the need for industry connections need to get explored (Thiruvengadam, 2012).

Target Group

Once the institutions have a clear iteration of the need for Industry Connect then they need to identify the target group of students/ system which needs to get focused. For example, the students of academic institutions have poor soft skills. So, the target group would be that particular set of students who are having a poor exhibition of soft skills (Petrovski & Neto, 2017).

The goal of Engagement/Connect

For any engagement/ industry connect is highly desired that the HEI's stakeholder must gain clarity over the objective of this linkage. The end goal and purpose should be known so that the approach can be time-bound and remain result-oriented. With this, any deviation can be easily identified (Ebneyamini & Moghadam, 2018).

Identification of Expert

This performs the most critical task HEI's need to know that who would be the right person or Industry to connect with to help them meet their desired goals (Framework of Industry-University Linkage in Research, 2019).

Planning of Activity

Considering the quality of industry/ expert, the objective of the connect and the target group of audience/structure a perfect plan should be developed which must detail upon the facts like the theme of engagement, duration, and mode of delivery to make the engagement specific, time-bound, effective and result oriented (Yildiz, 2016).

Scheduling

This is the final step before the announcement of Industry Connect. The system is ready with all the groundwork, the purpose of connecting, target group, and the industry partner with series of activities envisaged. The scheduling should be done only after exploring the convenience ad suitability of the event/ engagement (Larco, Fransoo & Wiers, 2018).

The final phase is the execution of Industry Connect. Various objectives identified by Academic Institutions which they wish to achieve through Industry Connect includes Campus Placements, Technology Transfer, Development of Academic Curriculum, Training & Internships, Ranking & Recognitions, Better Compensations, Research & Development, and other purposes of mutual gains such as patents, entrepreneurial setups, etc (Rana, et al 2013). Post Successful Industry and Academia Linkages it is highly desired to have a review of outcomes. To perform this a strong comparative analysis should be done between the results before and after Industry Connect.

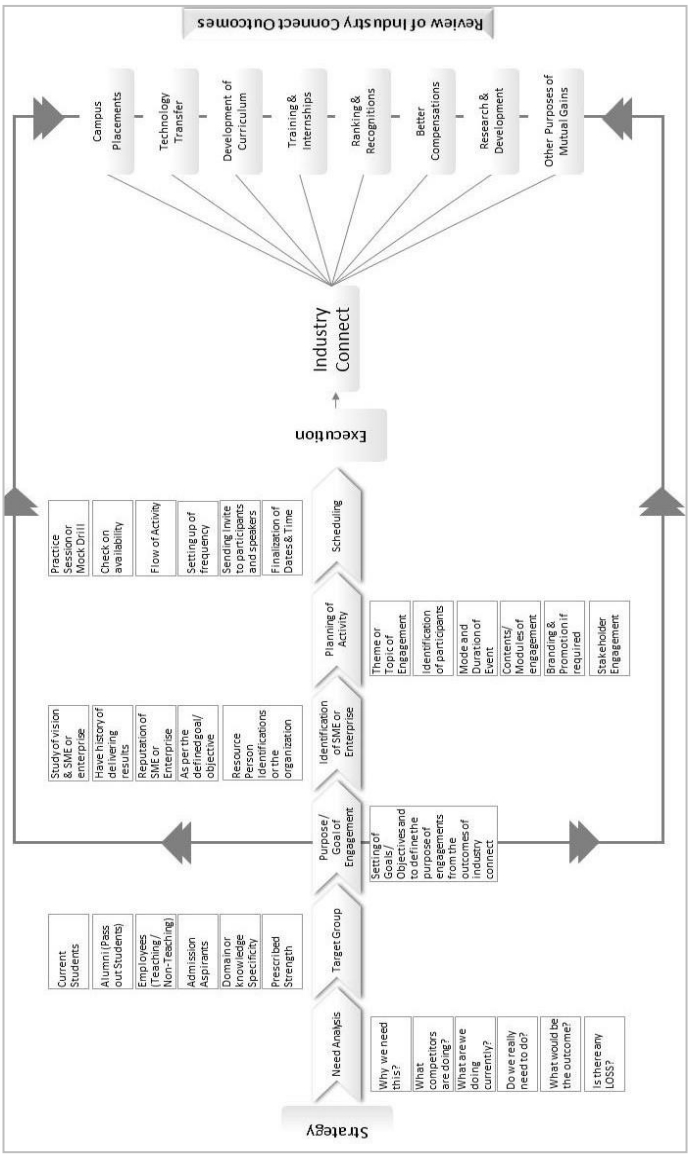

FIGURE 3
INDUSTRY CONNECT FRAMEWORK FOR HEI'S

DISCUSSION

If students are groomed optimally as per industry expectations, then they can be tagged as Professionals and then automatically Jobs/ opportunities will search for such

students. To optimize the Industry-Connect, HEI's need to undertake several initiatives basis the need and interest of their students. Such as Forum/ Online Platform/ Dedicated Ecosystem to work on searching and communicating the Government Jobs to students. Although many may not want to enter Government Jobs but sharing an opportunity is worth desired, strong advice to students to create and maintain the quality of the content at social media handles like LinkedIn, Twitter, Facebook & Instagram. In the new world, this would work as the social resume of students. For this, training should be given on how to optimally utilize these platforms for getting recognized and a wide job search. Institutions may also avail premium account of Job Sites like LinkedIn, Naukri, Times Jobs to be provided to Placement Departments whose dedicated unit will keep on grabbing useful job opportunities for the students and sometimes for Alumni as well. This will also help in building connections with relevant people in the industry.

Institutions also need to get the faculties trained on the leading technology and skills as desired by industry so that they can further guide and train students at their respective institutes. University/ Institute/ Department need to remain flexible in adopting new-age subject, integration of technical courses or syncing own curriculum following the industry to ensure that without investing extra time students can get maximum returns. Involvement of Industry in the Board of Studies to ensure regular updating of the curriculum as per the industry requirement. Same should get now promoted at all front to motivate our students and the other related set of industries as well. This demands huge promotion. Additionally, the set of Industry Experts recommended for BOS should only from Fortune 500 Companies. Fostering strong student- Industry connects by providing Industry mentors to every student. This ensures a constant inflow of ideas to further stimulate up taking industry-relevant issues and filling up the knowledge gap.

Industry Internships and Live Projects are constantly should be undertaken to facilitate mobility to build innovation in the academic ecosystem. This also enhances student employability and helps students get hands-on experience. Involvement of Industry to deliver Guest lectures to bridge the gap between the expectation of the Industry and the innovation at the University level through constant interactions should be conducted through online Webinars. Open-source digital learning solutions and Learning Management Software should be adopted to conduct placement or industry-related teaching online. Same should be promoted all across to gain admiration from the industry.

There are a lot of educational programs and certifications that are welcomed for helping you build a good Tech career.

These courses will help students to gain the attention of companies & improved chances of hiring. Only Basic subject knowledge would no longer be preferred from now on. Faculty mentors should also be assigned for students for guidance on changing trends. Example Redhat- They provide certifications courses and then they have so many customers who use RedHat products so in that way students will have so many opportunities since they will be certified RedHat engineers similarly NVIDIA, they also provide certified courses but that is for the teachers and they have certifications in the field like Robotics, AI, etc which is itself trending so much and would be a good opportunity for students and faculties to upgrade the skills. University should not stick to 2 months internship concept as there are good number of opportunities available in the industry which offers students 4-6 months internship followed by placements and students should be excepted from all formats of restricts.

Also, there is a strong need to develop the Soft Skill Development of students. Especially which are these days known as e-skills. A combination of pleasing personality, positive attitude, decent behaviour, and excellent communication skills. There is a strong need to put extreme focus on industries like medicines, healthcare, AI, robotics, and drone technology which are generally nowadays are backed by various government projects and national and international opportunities. It is also important for the university to integrate the cost of ensuring internet connectivity at the homes of students along with all hardware. Guiding students with the general topics of current affairs, awareness of the current situation,

and asking them to be knowledgeable with the current scenarios through different media forms the important topics to be asked in interview/Group discussions.

Provide a strong IT Infrastructure for companies for smooth conduct of virtual recruitment process at the university level. Companies may not come physically to the campus shortly and the student may continue to study from remote locations but working units of the university will report at the campus and the Campus should be equipped enough to host virtual campus placements. Train the students mentally to ace their recruitment process virtually like Online Test, Group Discussion & Personal Interview. Indian students lack this training. A professional touch is desired. Alumni networks to be strengthened extend support to the existing and upcoming pools of students to ensure perfect industry acceptance and in case of crises may turn out to be the savior for them. All such perceived state of excellence, caliber can be achieved with the help of strong industry connections and to optimize the industry connect at the institutions of Higher Education, in usual format as well as in the times of pandemic, the proposed framework can be utilized.

CONCLUSION & DIRECTIONS FOR FUTURE WORK

In this study, we have proposed a model framework for Industry If with the wholehearted efforts of academic institutions, students remain successful in obtaining their dream jobs then the university will have another brand ambassador and a happy Alumni who would further put efforts in extending positive contributions to its Alma Mater eternally. To experience this every academic institution, need to have a strong methodology to make their student's industry ready and a strong industry connect to have a perfect flow of resources, technology, and manpower between Industry and Academia. In the physical world, academic institutions at the central level have had many options and opportunities of social engagements to interact and connect with industry but the sudden outbreak of pandemic has affected this education sector as well just like any other business across the globe. Campus Placements and industry connect is one of the strongest verticals for any academic system responsible to meet the expectations of students. The strong coordination of placement teams, corporate engagements, student grooming, and joint initiative helps students to excel in the related field of their studies and obtain perfect industry exposure during the academic journey itself.

LIMITATIONS OF THE STUDY

First and foremost, the study exclusively put emphasis and limited to the Education Industry only and its need to have Industry Connect. Due to the limitation of time and ongoing pandemic situations the perspective from the Industry point of view is not considered in this study. The response and the data collected in this study are purely based on the sample taken and the secondary research. Having personal connections to interview with experts was not possible hence telephonic discussion was the sole medium.

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