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ONLY EDUCATION IS NOT ENOUGH: A NECESSITY OF ALL-INCLUSIVE SERVICES FOR TECHNICAL EDUCATION.

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Abstract

Purpose: In addition to create challenging and congruent learning opportunities, it is important for Technical Education providers to create a supportive learning environment to help learners acclimate, connect with others and as well as access well-matched student support services to help them complete their studies and make them employable. Skill building is very crucial to ensure employability of academia to understand and make sure good jobs. Unfortunately, most of the Technical Education institutes in India have not identified the importance of such services, resulting huge unemployment and dissatisfied students. The purpose of this paper is to highlight supporting and extension services in connection to operating services in Technical Education and students' perception on them.

Design methodology: A qualitative research by a survey (through a structured questionnaire) of students who are studying or have studied Technical Education affiliated to the North Maharashtra University, Jalgaon on their perception regarding operating, supporting and extension services offered by TE institutes.

Findings: The research revealed that TE institutes, no doubt, are offering good operating services however lags in supporting and extension services. It is also found that students' satisfaction of selecting TE institute is highly associated to supporting and extension service than operating services offered by the institute.

Research limitations: The survey is delimited to the Technical Education belonging to North Maharashtra University, Jalgaon and located in Khandesh region of India.

Practical implications: India, compared to other nations, lacks formally trained manpower. In Korea, for example, the skilled workforce is 96 per cent, in Japan 80 per cent, in Germany 76 per cent and in Britain 70 per cent but in India it is only 10 per cent. Technical Education Institutes of India, can gain competitive edge in the future, by effective and creative ways to attract, retain and foster stronger relationships with students by interaction and mechanism of the market and industry. This is only possible by lubricating; operating, supporting and extension services, all services combined.

Introduction:-

The World Economic Forum's Global Talent Risk report (WEF, 2011) had cautioned that India would face huge skill deficits due to low employability [1]. In India, only about 14 percent of the labor force is employed in Formal jobs [2]. Other than initiatives like Smart City development, Skill India, Digital India, Start-up India, FDI enhancement, National Investment & Manufacturing zone, creation of Industrial Corridor will not only make India a global manufacturing hub but it will also generate a huge number of employment opportunities with growing Industrial demand [3]. According to NASSCOM (National Association of Software Companies), every year, over 3 million graduates and post-graduates are added to the Indian work force but only 25 per cent of technical graduates and 10-15 per cent of other graduates are considered employable by the industry. Education is a process of skill formation and in this aspect, it is treated at par with the process of capital formation. Education not only increases the productive skills of the individual but also his earning power. It gives learners a sense of wellbeing as well as capacity to absorb new ideas, increases his social interaction, gives access to improved health and provides several more intangible benefits [4].

In the past decade, there has been a sharp increase in the number of private institutes as well as universities in India; higher education is continuing to expand, mostly in an unplanned manner, without even minimum levels of checks and balances [5]. In India, as per the report of All India Survey on Higher Education (AISHE) 2014-2015, enrollment in Technical Education (approximately 30%) is the second largest among all higher education programs [40]. The Government of India encouraged the spread of Technical Education in last decade. Today it is reasonable to contend that the conceptualization and organization of academic work and the academic career structure no longer meet the educational and operational demands of the current environment and create many barriers to success [6]. The wide heterogeneity in quality of universities explains why only 25% of Indian engineering graduates are considered suitable for employment [7]. This is why the Indian National Assessment boards of Higher and Technical Education like NAAC and NBA have given weightages to the supporting and extension activities which are related to employability skills, for assessment of institutes with the academic and curriculum activities. As per National Assessment and Accreditation Council (2013), learning activities should have a visible element for developing sensitivities towards community issues, gender disparities, social inequity etc. and in inculcating values and commitment to society. Extension services also is the aspect of education, which emphasizes community services. These are often integrated with curricula as extended opportunities, intended to help, serve, reflect and learn. The curriculum-extension interface has an educational value, especially in rural India [8].

Effective Quality Services:-

There is desperate need in India that 'Higher Education should be guided through Service Quality concepts to achieve excellence' [9]. There is consensus in the research literature in higher education that students exhibit several different approaches to learning. Qualitative and quantitative studies have confirmed a broad distinction between deep and surface approaches to learning [10].

Bonnema and van der Wald grouped factors of a student market in higher education with the following labels: university, college, employability aspects, course content, student experience, sporting aspects, financial aspects, direct sources, media sources and social sources [11]. Reference [12] define Quality in education from TQM perspective. They believe educational institution as an open system i.e. management system, a technical system and social system. It includes within it the quality of input in the form of students, faculty, supporting staff and infrastructure, the quality of processes in the form of the learning and teaching activity and the quality of outputs include examination results, employment, earning and satisfaction. Reference [13] have briefly examined the various factors which affect the effectiveness of Technical Education and they have categorized them into seven major heads; Administration, Infrastructure, Teaching Effectiveness, Students, Interaction with Industry and Society, Extra-Curricular Activities, Research and Development. Reference [14] explained five factor model of Service Quality in higher education. Among five factors, Administration, Student Safety, Faculty Communication, Facilities and Interpersonal Behavior of Faculty, they found faculty members' communication was most important factor and has significant contribution for the overall satisfaction of the students. Service includes all the activities required to keep the product or service working effectively for the buyer after it is sold and delivered. Value based services should be delivered through; operating services, supporting services and extended activities based on Student Mentoring, Support Student Progression and Student Participation and Activities to enhance skills and ability

development. Educational services are personal and characterized by intensive, intellectual, emotional and/or physical participation of students in a service process. Services are often realized in a number of steps, which, basically, constitute the very service process. Production and consumption of educational services take place simultaneously and students' participation in it is rather important. They evaluate service quality, hence the shaping of the service process— detailed planning on how to provide a service— is vital to maintain (improve) educational service quality. The process is so important that some authors describe it as a real essence of service [15].

Operating Services:-

Operating services are those activities which are required for delivering a service to the acceptance of service. Reference [16] evidence in literature indicates that Continuing Professional Development of teachers is essential in creating effective colleges. Most scholars agree that the relationships between students and faculty are vital to student success in college [17]. Furthermore, Kuh et al. contend that faculty approachability and interaction can consist of many facets, including working with a faculty member on a research project, working with a faculty member on activities other than coursework (committees, program activities, etc.), discussing assignments and grades, and receiving prompt academic feedback on performance. In addition to that the adoption of Total Quality Management enhances credibility to meet the requirements of the faculty performance which leads to improve its competitive position among other similar academic institutions [18]. Audio-Visual aids are now common in conducting the education services [19]. Reference [20] supports an interactive session focuses on participating in shifting the paradigm toward learner-centered curriculum delivery. Teaching and learning in TE is a shared process, with responsibilities on both student and teacher to contribute to their success. Quality teaching and learning has broad horizons, taking place in a research-rich environment, where the subject matter is driven by the latest knowledge and research, delivered in a way which encourages students to develop academic literacy and both subject specific and generic skills which they can apply immediately in the real world. The application of educational technology enhances skills and cognitive characteristics with the explosion of learning and receiving new information, especially on mobile devices. The evolution and development of Information and Communication Technology (ICT) has resulted in a paradigm shift in the educational system. ICTs are changing the way people learn, offering new alternatives to the traditional classroom. ICTs have the capability of providing “personalized, just-in-time, up-to-date, and user-centered education activities” [21]. ICTs have encouraged new research and development in teaching and learning techniques. ICTs have the potential to drive innovative and effective ways of teaching-learning and research. The inclusion of learning tools, easier use of multimedia or simulation tools, easy and almost instant access to data and information in a digital form which allows for computations and data processing generates possibilities which were otherwise not feasible.

Supporting Services:-

An assistance required for successful execution of program or process or service is known as Supporting service. Reference [22] found that students who feel at home, who are well connected to fellow-students and teachers and who take part in extra-curricular activities are more likely to graduate. The current education system lacks its focus on training young people in soft skills that can provide them with employment opportunities. As such, training in soft and employability skills is all the more relevant not least because the education system does not delve into personality development [1]. Another factor that impacts persistence is what is known as business procedures or bureaucratic factors. It can best be defined as the interaction that occurs between the student and the service providers at the institution [23]. For instance, common patterns of exchanges occur between the student and various offices such as the business office, residence life, financial aid, departmental offices that define major requirements, social/athletic events, parking management, etc. A number of colleges and universities offer students a wide variety of services and resources intended to promote persistence by providing academic assistance [24]. Most of the academic support services are tutoring centers which offer academic assistance in a variety of areas, such as speaking, writing, and mathematics. Reference [25] reported that academic resources such as these supporting services produced statistically significant positive impacts on student persistence. According to reference [26], college students must be actively involved and engaged in their surroundings if they are expected to learn and grow while attending college. While it is important for students to be academically involved and engaged, reference [27] contends that it is also important for students to become involved and engaged in other areas of college life, such as campus organizations, activities, athletic events, etc. Reference [28] suggested constant collaborative activities between professors and student support services, such as the incorporation of support services or other supportive resources into class curriculum, class visits to support centers, or simply encouragement to take advantage of support services, promoted student involvement and subsequent connectivity. Reference [29] explains that as universities

provided programs and delivered benefits exceed the charged fees, students would have a high sense of satisfaction. Reference [30] discusses the evolution of web services and describes how services such as fee payment, parking renewal, registration, career services, and personal counseling, as supporting services.

Extension Services:-

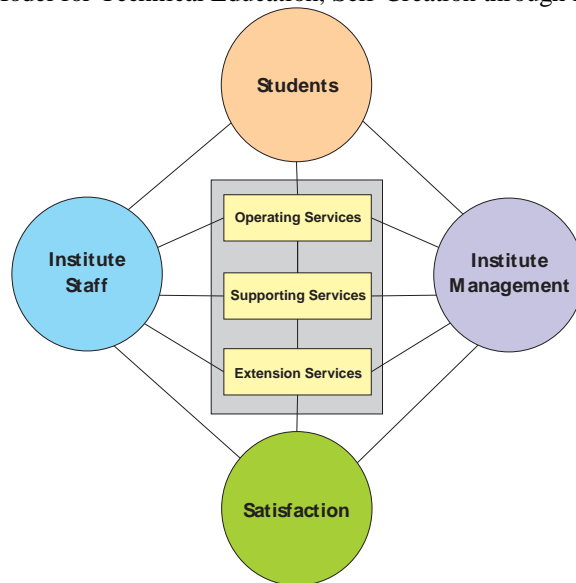
Motivation and students’ approaches to learning are dynamically related to each other [31]. One important factor which affects students’ persistence is that of being socially integrated and connected with others, especially other students. Education or an Institute, for most students, is not only a time of academic pursuits but also an opportunity to explore or enhance themselves as social beings. In fact, while some students desire to finish college, they do not consider themselves to be ultra-academic beings and instead want to partake in endeavors that develop them socially [32]. Reference [33] detected academic and social integration to be influential on study performance. They also distinguish four concepts in academic integration: academic-, social-, personal- & emotional adjustment and attachment. Greatest importance needs to be attached to extension work, as a learning and development instrument, for the benefit of community through students and teachers [34].

Students satisfaction:-

Reference [35] define satisfaction as a state felt by a person who has experienced performance or an outcome that fulfill his or her expectation. Satisfaction is a function of relative level of expectations and it perceives performance. Satisfaction is also perceived as the intentional performance which results in one’s contentment [36]. Consumers, such as students, usually make a purchase decision based on their own valuation of the marketing efforts. However, their satisfaction is based on their evaluation of the products or services utilized and whether or not their expectations or needs were met [37]. Educational institutions use certain methodologies to determine the level of their students’ satisfaction regarding the services and programs they offer to better fulfill student needs and satisfy student aspirations [38]. If the higher education sector knows about the factors that improve students’ perception of satisfaction, it will can provide better services as well as improving existing ones. To gain competitive advantage, reference [39] recommend universities to highlight the strategic importance of social values gained by students when joining them. Moreover, they argued that universities must demonstrate how they provide support to their students’ objectives achievement. Basically, this would affect the students’ perception of satisfaction hence the university’s competitiveness. Several factors influence students’ level of satisfaction as well as their achievement and absorption capacity. To deliver knowledge with quality effectively, teaching methods by instructors, as well as the related supporting services, are two critical elements [39]. Determining and assessing students’ satisfaction with their educational experiences is not so easy, but can be very helpful for the institutes to build strong relationship with their existing and potential students.

Conceptual Framework From Literature Review:-

(Fig 1: All-inclusive Service Model for Technical Education, Self-Creation through Literature Review)



Operating Services	Supportive Services	Extension Services
<ul style="list-style-type: none"> • Curricular planning, implementation, enrichment • Internal & Final Examination • Teaching-learning Process • Students Performance & Learning outcomes • Research Promotion & Research Publication • Computational facilities & Internet • Library access • Laboratory access • Use of Technology 	<ul style="list-style-type: none"> • Industry -Interaction • Publications • Technical Workshops/Symposium • Students guardian/mentor system • Feedback & Assessment System • Employability development • Financial Aid • R & D Cell • Guest Lectures & Expert Talks • Education/Industrial Tours • Training & Employability Development programs • Entrepreneurship Cell • Placements & Higher Education assistance • Co-curricular and Extra-Curricular Activities • Transportation facilities • Residential Facilities • Administrative support • Banking & Post facilities • Safety & Security services • Medical facilities & insurance • Awards & Rewards • Learn and Earn 	<ul style="list-style-type: none"> • Social Activities & holistic development • Community development • Social Clubs • Involvement in National Agencies / NGO • Rural development activities

Research Methodology:-

The objective of this research was to find out students' perceptions and experience on services offered by the TE institutes and to find out relation between satisfaction and the services experienced. A qualitative research through a survey was made. It comprised of a structured questionnaire sent through e-mail to the current-students enrolled and passed-out students (alumni) belonging to the technical institutes affiliated to North Maharashtra University. Sample size (n) was calculated at 95% Confidence Level for which Standard Normal Variate (Z) is 1.96 & at Standard Error (e) of 0.03 by $n = Z^2 (p)(1-p)/e^2$; where n = Sample Size to be used for this study, N = unknown population, p = Estimated Portion of Population N. For p = 90%, 'n' comes out to be 553. However, sample size of 664 was selected by quota sampling from technical institutes offering different programs in engineering, pharmacy and management & different students (Current as well Post-students/Alumni) based on their location of native place, gender. The questionnaire comprised structured and closed ended questions measuring different services offered by TE Institute and its' relation with the satisfaction of decision of selection of TE institute were sent through E-mail. Responses were obtained through a google form on a scale ranging from 0 to 5, where value zero is low weightage and value five is high weightage. The characteristics of the sample is described as below;

By Gender: Male: 454; Female: 210

By Native Place: District: 162; Taluka: 283; Village: 219

By Technical Educational Program: Engineering: 492; Pharmacy: 113; Management: 59

Data Interpretation And Findings:-

	Individual Mean	Association with 'Satisfaction' of selection of institute		
		p-value	F-value	Pearson' Linear Correlation(PLC)
OPERATING SERVICES				
Infrastructure & Technology	3.60	0.000	14.00	0.215
Faculty & Teaching Learning Methods	3.63	0.000	10.40	0.199
Library & Computational Facilities	3.47	0.000	18.74	0.277
Research Activities	2.90	0.000	18.56	0.277
SUPPORTING SERVICES				
Students Amenities & Recreation	3.27	0.000	14.89	0.240
Campus Placements	3.31	0.000	23.36	0.309
Industry Interactions & Tie-Ups	3.10	0.000	19.03	0.279
Co & Extra-Curricular Activities	3.11	0.000	18.98	0.281
Safety, Security & Medical Facilities	3.07	0.000	15.35	0.255
Gradation, Accreditation & Recognition	3.21	0.000	15.94	0.256
Alumni Interaction	3.11	0.000	16.27	0.257
Soft Skills & Technical Skills	3.52	0.000	11.47	0.210
Sports & Cultural Activities	2.86	0.000	11.55	0.219
Finance & Scholarships	3.07	0.000	12.76	0.222
EXTENSION SERVICES				
Campus & Social Life	3.50	0.000	18.18	0.267
		MANOVA- General Linear Model; p=0.000; Apro. F=3.310 by Wilk's		

It is revealed that students' satisfaction is associated with the services offered by the Institutes with $p=0.000$ which is significant at $p<0.05$ and approximate F -value= 3.310 , conducted by statistical software, Minitab 17, calculated by MANOVA – General Linear Model with Wilk's method. The students responded that they experience best services of Infrastructure and Technology (Mean= 3.6), Faculty and Teaching Learning Methods (Mean= 3.63) of the institutes wherein they are enrolled. However, their satisfaction for selection of TE Institute is highly associated with Campus Placements (F -value= 23.36 , PLC= 0.309), Co & Extra-Curricular Activities (F -value= 18.98 , PLC= 0.281), Industry Interactions and Tie-ups (F -value= 19.03 , PLC= 0.279), and Campus and Social Life (F -value= 18.18 , PLC= 0.267) of Institute wherein they are enrolled.

It is observed that Institutes are concentrating on operating services more than the supporting services and extension services. However, students' satisfaction is more associated with the supporting activities and extension activities than operating activities.

Conclusion:-

According to former Prime Minister of India, Dr. Manmohan Singh - 'The time has come to create a second wave of institution building and of excellence in the fields of education, research and capability building'. We need an educational system that is modern, liberal and can adapt to the changing needs of a changing society, a changing economy and a changing world. Infosys, an IT giant, last year sorted through 1.3 million applicants only to find that around two percent were qualified for jobs. Employability services can play a big role to help both institutes and their students to understand and evaluate their job readiness and work constructively to fix the lean points. Industry and Academia connect is necessary to ensure curriculum and skills development of students are in line with requirements. (knowledge + global professional skills = good jobs). We live in a world that requires the combination of different skills and knowledge sets for increasing success and competitiveness, TE leaders must work with all constituent services to forge the best possible strategic services to recruit, develop, retain, to produce employable

graduate students and to assist them for placements and further career path. Educational services can be driven on Five Pillars; make it easy, make it relevant, make it fresh, manage it, measure it. Such services should impart social, moral, integrity, character, spirituality and many more as it builds the qualities of humility, strength and honesty in a student. These sets of services should lead to purity of hearts and sincerity too. Education services must extend relationship with the world. In the next few decades, India will probably have the world's largest set of young people. Even as other countries begin to age, India will remain a country of young people. If the proportion of working population to total population increases by delivering employable services and skill development services, India will find productive job opportunities for such a working population and that would give India a big opportunity to leapfrog in the race for social and economic development and as a result growth rates would go up. No. doubt!

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