Qualification Framework And Recognition
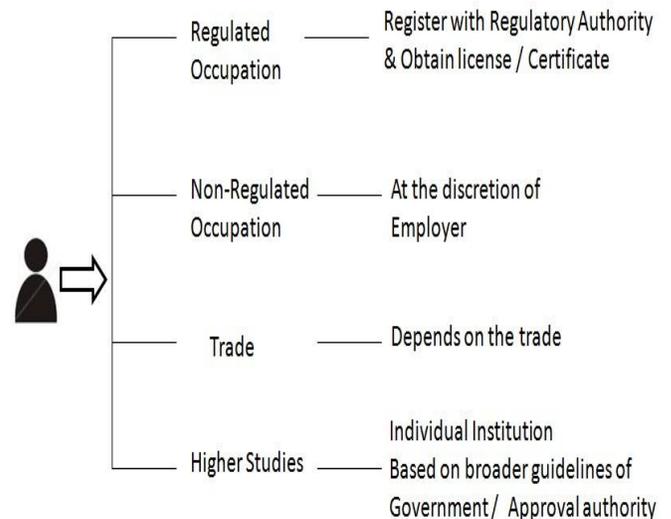
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Abstract: The open economy increased attracting the talent across the word through academic and occupational mobility. The recognition of programme credibility and qualifications is important for both students and employees who seek overseas appointments. The individual country follows its own qualification framework. There is a wide disparity and challenge in judging student credentials based on different qualifications. The high in- and out- bound mobility necessitated the countries to think about standardize the national qualification framework on par with international standards and recognition. There is a need to monitor quality, transparency and accountability in national, regional and global standards towards borderless higher and skill education. The study aims to review some of the efforts across the world to standardize the qualification framework for better recognition.

Index Terms: Qualification Framework, Qualification Recognition, Migration, Occupational Standard, Vocational Education

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1 INTRODUCTION

THE qualification framework is an instrument to identify and classify degrees, diplomas and certificates according to a set of learning competencies. The number of levels in a framework varies according to national or international needs. The basis for qualification framework is to improve the quality, accessibility and labour market recognition within and outside a country. The recognition process benefits the country and institutions in setting quality benchmark, knowledge transfer and increase collaborative research capabilities. The individuals are benefited by expanding their competency level and improve living standards. The global convention on qualification recognition promotes greater opportunities towards cultural exchange and meets the expectations of sustainable development goals.Many countries do not recognize international qualification with automatic validity, as it is very difficult to understand the system of others. Each country establishes the competent authorities to recognize foreign qualification. The different recognition system is applied to higher studies / academic upgradation employment in a regulated and non-regulated profession (see Fig. 1). The applicants of higher studies are evaluated by individual institutions with reference to the broader guidelines established by country's competent authorities. The formal recognition of qualification will minimize the challenges during study abroad and overseas employment (Hemingway, 2014). However, the greater challenge is on recognizing informal and non-formal learning in employment. Countries including India have provided options for recognition of prior learning to increase employment opportunities of Indians in formal regulated sector. The research is made on best practices of sector based, national, regional and international frameworks and the recommendations are listed for improvement.

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Fig. 1. *Foreign Qualification Recognition*

2 SECTOR QUALIFICATION

The sector qualification identifies the required workforce in the sector and levels of workforce. Each level describe students competency to execute the job related to mapped occupational standard . The description of each level assumes that earlier levels have been largely achieved and maintained. The sample from United Kingdom (UK) automotive sector qualification progression (SPIN360, 2013) is shown in Table 1.

Table 1. *Sector Skill Qualification for Automotive Sector (Country : UK)*
(a) Jobs and Workforce
(b)

Job Areas in the Automotive Sector		The work force
Body Building	Maintenance and Repair	Owners and Managers
Fast fit operations	Motor Cycle	Sales and Administration
Road side assistance	Heavy Vehicle	
Vehicle rental / leasing	Light Vehicle	Professional / Elementary occupation
Parts distribution supply	Lift Truck	
Vehicle Sales	Accident repair	Skilled Occupation & Technician

Qualification progression of Skilled occupations / Technicians (Country: UK)

Qualification level	Nomenclature
Degrees	MEng in Automotive Engineering
	PG Diploma / MSC in Automotive Engineering
	BEng in Automotive Engineering
	BSC in Automotive Technology (Specializations)
Foundation Degree	Engineering Foundation
	Foundation Degree in Motor Sport Engineering
Apprenticeships	Motor Industry Training
Diploma In Engineering with automotive specialization [Level 3]	Transport engineering & Maintenance
	Retail Motor Industry Vehicle body and paint operations
	Retail Motor Industry Vehicle Fitting
	Retail Motor Industry Vehicle Parts Operation
	Retail Motor Industry Vehicle Maintenances & Repair

3 NATIONAL QUALIFICATION FRAMEWORK

The qualification framework establishment at national level in each country ensures skill map, competency level related to occupational standards and eliminate non-uniformity. For example, Australian Qualification Framework (AQF), 2007 comprises a comprehensive, consistent flexible framework, which connects school, vocational education & training and higher education levels in a coherent single framework (see Table 2). Similar to UK, the AQF also grouped according to sector. The enrollment in vocational education in the schools sector gets increased. The vocational certificates in some of the cases are issued by higher education institutions, as approved by Registered Training Organizations, where in some of the Associate Degrees are issued by approved vocational training institutions.

Table 2. *Australian Qualification Framework*

School	Vocational Education & Training	Higher Education
		Doctoral Degree
		Masters Degree
	Vocational Graduate Diploma	Graduate Diploma
	Vocational Graduate Certificate	Graduate Certificate
		Bachelor Degree
		Associate Degree
	Advanced Diploma	Advanced Diploma
	Diploma	Diploma
	Certificate IV	
Senior Secondary Certificate	Certificate III	
	Certificate II	
	Certificate I	

The All India Council for Technical Education (AICTE) developed National Skill Qualification Framework (NSQF) as given in Table 3. The qualification is aligned with respect to expected learning outcome and taxonomies to optimize the global opportunities. The flexible entry exit system and seamless migration between formal and vocation streams are yet to be realized in large scale (ADB, 2014). The involvement of industry partners on syllabus, internships and training will enhance the employment opportunity. Similar to the countries like UK, the sector skill councils of India developed the qualification pack aligned with NSQF as given in Table 4. The higher education institutions and the approved sector skill training institutes are recommended to offer job oriented courses in each sector. The National Educational policy 2019 of India is through the proposed General Education council to create a National Higher Education Qualification Framework (NHEQF) on par with international level.

Table 3. *NSQF levels : India (MHRD, 2014)*

Level	Higher Education	Vocational	Certifying Bodies
10	Doctorate		Universities
9	Post Graduate (PG)	M.Voc	
8	PG Diploma		Universities, Technical Boards
7	Under Graduate (UG)	B. Voc	
6	UG Year 2	Advanced Diploma	
5	UG Year 1	Diploma	
4	Grade XII		Technical Boards, Higher Secondary Boards
3	Grade XII		
2	Grade X	Vocational Specialization	Secondary School Boards
1	Grade IX		

Table 4. *Qualification Pack of Engineering discipline (Country : India)*

NSQF Level	Engineering	Business Process Management
8	Research Associate	Research Associate
7	Design / Quality /Test Engineer, Market Research Associate	Associate-Analytics, Editorial, Finance, Human Resource, Legal, Customer care
5 (Diploma)	Support Engineer	Customer care (Non-Voice)
4 (Diploma)	-	Data Entry / Biometric operator, Collection executive

3   BI-LATERAL AGREEMENTS

The agreement between two countries regarding the mutual recognition of qualifications obtained/utilized within their border. The Trans-Tasman Mutual Recognition Agreement is a bilateral agreement between Australia and New Zealand to recognize qualification of each other (COA, 2006). A person registered to practice an occupation in one country can make use the license to practice similar occupation in another country, without any additional exam or training. The implementation follows mirror legislation in both the countries reference to the arrangement of principles for standards setting and regulatory action. This resulted the increased the labour mobility around Australia and across Tasman. Australia Education International maintains database on country education profiles which covers higher educational qualification based on the quality assurance, regulation and student achievement. The recognition of bachelor degree

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qualification from India based on earlier version of National Assessment and Accreditation (NAAC) is given in Table 5. The World Education Services operated from North America has also worked out equivalence of bachelor degree of India based on NAAC criteria as follows: Three year bachelor's degrees with first class from NAAC "A" grade accredited institutions will be equivalent to the United States bachelor's degree as full undergraduate equivalency. The remaining will be considered as simple three years of undergraduate study, where students are expected to additional one more year prior to doing Masters in United States. The report on "The system of education in India", Nordic Recognition Information Centres (2006), briefly studied the details of Indian education system with respect to curriculum, examination, degree structure, governance, affiliation, research, industry participation and accreditation to recognize Indian students in higher education institutions and labour market in three countries such as Denmark, Sweden and Norway. The growing Indian population in these three countries motivated them to ensure quality concerns of Indian education system in order to make sure the knowledge level of migrants

Table 5. Australia's Placement Recommendations for Bachelor's Degree from India (Source : Emily Tse, 2012)

Type and Rating of Institution	Level of Credentials	Recommendation of Equivalence
Very Good Institution with NAAC Rating of A	Bachelor Degree (3 years) Regardless of Division	Bachelor Degree
Good Institution with NAAC Rating of B	Bachelor Degree (3 years) 3rd or Pass Division or class	Associate Degree
	Bachelor Degree (3 Years) 1st or 2nd Division or Class	Bachelor Degree
Satisfactory Institution with NAAC Rating of C	Bachelor Degree (3 years) 2nd,3rd or Pass Division or class	Associate Degree
	Bachelor Degree (3 Years) 1st Division or Class	Bachelor Degree

4 REGIONAL QUALIFICATION

As qualification framework drives value in education through a defined learning outcome, the education system must have a comprehensive mapping of knowledge, skill and competency mapping. The mutual recognition of regional qualification improves the region to gain greater mobility for higher studies and occupation (Anthony, 2014). All countries in a region will be benefited with the facilitation of student and labour mobility for the liberalization of trade in education and training. Most of the countries consider the Regional Qualification framework as catalyst for developing national qualification framework. There are several studies including European, South African, Caribbean, Association of South East Asian, Gulf cooperation council, Transitional Qualification framework for virtual university for small states of Commonwealth, and Asia Pacific countries. Among them, the European Qualification framework (EQF) is more matured and also referred in other developments.

5.1 EUROPEAN INITATIVES

The Bologna process is developed to harmonize the qualification across European region to ensure quality and compatibility of higher education qualifications. EQF is a translation tool that helps in communication and comparison

between qualification systems in Europe with reference to learning outcomes: Knowledge, skill and competencies (see Table 6). This allows any national qualification systems and frameworks to relate to the EQF levels.

Table 6. EQF levels and learning outcomes (https://ec.europa.eu)

EQF Level	Knowledge (Theoretical/Factual)	Skills (Cognitive/Practical)	Competence (Responsibility & autonomy)
1	Basic general	Basic to carry simple task	Direct structured supervision
2	Factual field work	Solve routine problems, simple rules	Under supervision with autonomy
3	Facts, principles, processes	Apply basic methods, tools, materials, information	Own behavior based on circumstances
4	Factual and theoretical information in broad context	Generate solutions to specific problems	Exercise Self management that are predictable
5	Comprehensive, specialized factual information	Creative solutions to abstract problems	Exercise management and supervision for unpredictable changes
6	Advanced critical understanding of theories and principles	Mastery, innovation to solve complex and unpredictable problems	Decision making, Professional development of individual and group management
7	Original thinking and research, critical awareness at the interface between fields	Research and innovation to develop new knowledge and procedures and integrate knowledge from different fields	Strategic approaches, Review the strategic performance of team, unpredictable changes
8	Most advanced frontier at the interface between fields	Synthesis, evaluation, innovation, redefine existing knowledge/ practice	Authority, innovation, autonomy, scholarly, professional integrity to develop new ideas

The European Higher Education Area (EHEA) adopted three cycles in higher education qualifications with European Credit Transfer and Accumulation System (ECTS). (Selda, 2010) The synergy of EQF, ECTS and EHEA is given in Table 7.

Table 7. The synergy between EQF, EHEA and ECTS

EQF levels	EHEA	ECTS
8	Third Cycle (Doctoral Degree)	--
7	Second Cycle (1-2 years – Masters Degree)	90-120
6	First Cycle (3-4 years – Bachelor Degree)	180-240
5	Short Cycle	120
4		
3		
2		
1		

The ECTS was initially established under ERASMUS and later revised to with credit accumulation and transfer of learner-centric process and outcomes. The features of Bologna Action lines are listed as: Adoption of a system with easily comparable degrees Esatblish system of credits, mobility & lifelong learning Promotion of European cooperation in quality assurance Attractiveness and competitiveness of European

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higher education Synergies in European higher education & research areas The secondary level credentials are reviewed to expand the access of university study. The UK placement recommendations for the secondary-level certificates have range of possibilities which include A, AS and GCSE levels with different years of study. The secondary level credential of Bologna signatory countries is equivalent to the A level in UK. Table 8 demonstrates the complexity in equivalence mapping of qualification framework in two Europe countries namely Germany and Denmark.

Table 8. *Comparison of Qualification between Germany and Denmark (https://ec.europa.eu)*

	Germany	Europe	Denmark
	8 Doctoral Degree	8	8 Ph.D degree
	7 Master of Science, Advanced Vocational Qualification (Strategic Professional)	7	7 Master Degree
	6 Bachelor Degree, Advanced Vocational Qualification (State Technician Certification/ Craftsman Recognition , Operative)	6	6 Bachelor Degree, Professional Bachelor Degree Diploma degree in Management
	5 Advanced vocational qualification with E- & ISO standard certification/ Advanced training certification	5	5 Academy Professional Degree
	4 Vocational qualification in State training assistant	4	4 Certificate for 3 year general upper secondary/two year upper secondary in high preparatory, Vocational education and training
	3 Vocational qualification in state training occupation	3	3 Freshman / Blue certificate
	2 Pre-vocational training in engineering Vocational preparation with integrated secondary general school certificate	2	2 Certificate for 10th class 1 Certificate for leaving examination of 9th class
	1 Pre Vocational basic qualifications in School leaving certificates	1	---

(Left axis label: Qualification Level)

As the migrants of Australia and European countries are mutual (AQF, 2014), there is a detailed comparison made between AQF and EQF for mapping the qualification framework as shown in Table 9.

Table 9. *Comparison of AQF and EQF (Source : AG & EU, 2016)*

AQF	EQF
10 Doctoral Degree	8 Third cycle Degree (Doctoral)
9 Masters Degree	7 Second Cycle Degree (Master)
8 Bachelor Honours Degree Graduate Certificate Graduate Diploma	8 First Cycle Degrees (Bachelor, Bachelor Honours)
7 Bachelor Degree	
6 Associate Degree Advanced Diploma	5 Short Cycle Higher Education Qualification
5 Diploma	
4 Certificate IV	4 Upper Secondary General Education Certificates, Vocational Qualifications
3 Certificate III	3 Secondary General Education Certificates, Vocational Qualifications
2 Certificate II	2 Lower Secondary Education, Basic Vocational
1 Certificate	1 Primary Education Certificates

5.2 ASIAN INITATIVES

The importance of "Permeable framework in Asian Higher Education system as Asian Common Credit (ACC)" was studied (Hotta, 2012) under Promoting tools for balanced mobility. Though the work was author's individual contribution the gist of presentation helps to understand the need of Qualification Framework. The majority common tendencies (excluding few country-wide exceptions) are found as listed: 1 credit = 13-17 hours of teaching which is used for teaching hours rather than including amount of student workload with absolute grading system 4 year bachelors programme in engineering, 5-6 years in Medicine The workload varies based on lab/internship/field/theory courses China (40-45), Cambodia (45), Indonesia (46), Philippines (51)… Two semester system and 14-16 weeks of instructions per semester The list of countries grouped as per academic calendar is Brunei Darussalam, China, Japan, South Korea, Indonesia, Lao, Singapore and Vietnam Cambodia, Malaysia, Myanmar, Philippines and Thailand Some of the challenges in Asian region are: Identifying learning outcomes of the course as learning taxonomy varies which insists on describing learning outcome in course catalogue Need of uniform grading system for credit Transfer: Academic Calendar: There is a need of short-duration courses with 7-8 teaching weeks and four divisions in a year for skilling, upskilling courses. General Trends in Asia and Europe is listed in Table 10.

Table 10. *General Academic Trends in Asia and Europe (Hotta, 2012)*

Description	Asia	Europe
Total number of years for an UG programme	4 years	3 years
Total number of credits towards graduation	120-160	180 ECTS
Average number of credits per year	30-45	60 ECTS
Total Hours of student workload per credit	40-50 hours	25-30 hours
Total hours of workload per year	1200-1750 hours	1500-1800 hours
Proposed Transfer Scheme	1 ACC	1.6 ECTS
Proposed Workload concept	40-50 hours	40-48 hours

However, in the recent years, all the Asian countries are either contemplating / undergone revisions in their educational systems, and hence a review of the findings is required

5 INTERNATIONAL RECOGNITION

The goal for establishing international recognition of academic qualifications is to enhance mobility to enable all people with educational credentials to study, live and work in a location of their choice. This will facilitate the graduate have the attributes warranted by the credentials and also have those credentials accepted by other countries. There are several international associations that worked diligently to develop frameworks for international recognition of educational qualifications for engineering and others. The International agreement of professional engineering education signed in 1989 by signatory countries is named as Washington Accord. The professional engineering programme accredited by recognized bodies of accord will be equivalent to other signatory countries (Anwar et al, 2015). India became a member in Washington Accord through National Board of Accreditation (NBA) with a permanent signatory status on 2014. Following from the Washington Accord, a similar agreement was developed for

engineering technologies called as Sydney Accord and Dublin Accord. However, the international dimension of qualifications frameworks has not been up to date, beyond the regions and countries. There is a gradual shift from bilateral agreements to multi lateral agreements. It is the responsibility of individual nation to develop its qualification framework on par with international standards considering global political, economic, labour migration and integration processes.

6 CONCLUSION

The globalization and technology advancements encouraged the unprecedented movement of students and professionals globally. The mobilization improves economy and widening opportunities for individuals as well as countries with larger population have a benefit of placing their skilled workforce worldwide. The receiving country also gets benefited with placing skilled candidates. This has necessitated the nations to create qualification framework mapping with labour market worldwide. To avoid the challenge of supply demand connectivity gap, the new Educational policy of India focus on both local-global competency balancing in proposed qualification framework. Considering the India's young population workforce, the action based policy plan is required to align higher education qualification with required global skill set.

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