

## A comprehensive study on improvising the Visibility Quotient (VQ) of an Institution by Associating with Globally Recognized Student Association

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**Abstract:** This paper comprises of an effort in improvising the Visibility Quotient of an Institution to the external world such as its beneficiaries like corporate sector, government sector, research communities, Do It Yourself (DIY) group and even the community. Here we have demonstrated few initiations taken jointly by Rajarambapu Institute of Technology (RIT) and internationally recognized student association Student Platform for Engineering Education and Development (SPEED) (recently collaborated with IUCEE hence IUCEE SPEED) and few initiations taken by RIT SPEED Chapter individually and how it helped to improvise the Visibility Quotient of the Institution.

**Keywords:** Visibility Quotient (VQ), RIT SPEED Chapter, IUCEE SPEED, SPEED India.

### 1. Introduction:

The Visibility Quotient (VQ) of an Institution can be defined as a quantifiable matrix which gives us an intuitive insight about how visible our institution to the outside world or to the targeted audiences or beneficiaries. VQ is a corporate friendly term usually used with respect to an employee's profile building & maintenance. One such free way to improvise VQ of an employee is creating a profile in LinkedIn: World's Largest Professional Website which is well known in the world of both private and government sectors. Other example is Twitter which is often used as tool for Celebrity Image Building. Thus, VQ has tremendous

significance in bridging the gap existed between the Engineering graduates and their recruiters.

This paper discusses the innovative methods of using VQ for educational purpose with following sections: Significance of VQ at Institutional Level, Methodology to enhance the VQ, VQ Increment at Student Level, Outcomes of global association, Quantitative Analysis through DA, Results & Discussion and Conclusion & Future Scope.

### 2. Significance of VQ at Institutional Level:

At the very outset if you summarize the process of various ACCREDITATION (process of certification of competency, authority, or credibility) bodies in INDIA (NBA or NAAC) what they ultimately look for is two things,

- a) How many students got recruited?
- b) How many opted for Higher Studies?

So, the importance of VQ can be elaborated with respect to both Recruitment and Higher studies.

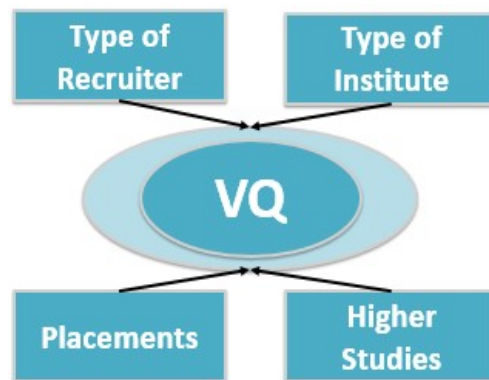


Fig. 2(a): Visibility Quotient I/O Diagram

Fig. 2(a): shows the input/output parameters are those which contribute to the strategy building &

verification of the strategy applied to enhance VQ. Let's discuss the first input parameter, different Type of Recruiters.

Recruitment is the process of finding and attracting capable applicants for employment. Sources of Recruitment can be classified as:

- 1) Direct Applications (Walk Ins) (18%)
- 2) Internet (Job Portals, Groups) (4%)
- 3) Consultancies and staffing Agencies (8%)
- 4) News Papers and magazines (4%)
- 5) Campus Recruitment (56%)
- 6) Employee Referrals (4%)
- 7) Promotions (4%)
- 8) Transfers (2%)

The above-mentioned percentage data of recruitment is an approximation of various discussions conducted with HR Managers of Indian Born Companies. The percentage may vary from MNC's to other companies based on their origin and type of work. But in and all, major share of recruitment is Campus Recruitment which has its own advantages. So institute strategy should be focused to tackle this type of recruiter.

*Note: In this paper, Campus Recruitment includes direct campus placement or internship offered by industry / companies.*

Let's take, second input parameter, the Type of Institutions. According to AICTE, there are 6223 Engineering and Technology Institutes in INDIA running under various types (Government, Government Aided, University Managed and Unaided – Private) [1]. The region wise count is given below:

- 1) Central Region States Engg. Institute Count: 540
- 2) Western Region States Engg. Institute Count: 750
- 3) Southern Region States Engg. Institute Count: 955
- 4) Northern Region States Engg. Institute Count: 1029
- 5) South Central Region States Engg. Institute Count: 900
- 6) South Western Region States Engg. Institute Count: 598
- 7) North Western Region States Engg. Institute: 1029
- 8) Eastern Region States Engg. Institute Count: 422

Since the total number of Institutions in India is large and situated in different geographical locations like rural, semi-urban and urban. The visibilities of each Institutions as an entity that can inculcate appropriate skill set amongst students, requires a unique process to quantify VQ of each type of institution.

In India, the recruitment hubs are concentrated in metro cities. Unlike in western countries, India has no centralized, authenticated recruiter's data hub maintained by government authorities. Hence the onus lies on the Companies and the Institutions to form formal relations like Memorandum of Understanding (MoU), Industry Institute Interactions for meeting each other's requirements. Thus, the VQ becomes an important factor for building this relation which is essential for mutual co-existence.

### 3. Methodology to measure & enhance VQ:

This sections describes the methodology to measure & enhance VQ of an Institution at multiple levels.

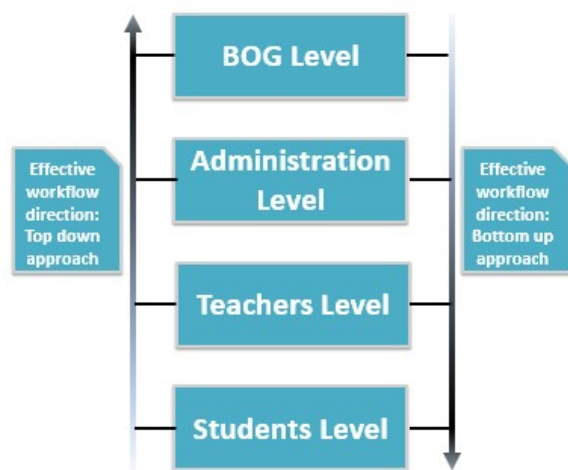


Fig. 3(a): Contributors for VQ.

Fig. 3(a) shows the contributors at different levels of an Institution.

1) Board of Governance Level: Active BOG is the biggest motivational factor of any progress

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oriented Institution. It can play a vital role in providing proper direction to the administrators.

2) Administrators Level: Administrators are the backbone of any Growth Oriented Institution, who can play significant role in strategy planning and allocation of suitable resources for its implementation.

3) Teachers Level: Teachers can play a substantial role in the effective implementation of the strategies made by Administrators.

4) Student Level: Students are the grass root level soldiers of any Effective Implementation. If given sufficient freedom, with their innovative methods and synchronization among themselves they will make possible the impossible. This will not only enhance their learning quotient and become better contributors for Increment of VQ of Institution.

Rajarambapu Institution of Technology (RIT) with its three years' association with SPEED INDIA has formed RIT SPEED Chapter, which has contributed tremendously for the increment in VQ effectively.

#### **4. VQ Increment at Student Level:**

This section describes various steps taken at Student Level to increase VQ through globally recognized student association i.e. WORLD SPEED.

WORLD SPEED: SPEED is a global, non-profit student organization that functions as an interdisciplinary network of engineering students, who aspire to provide opinion and create an impact on future development of engineering education and its effect on society and environment. ([www.worldspeed.org/portal](http://www.worldspeed.org/portal))  
SPEED INDIA: Is Indian SPEED Chapter, with an active committee consists of administrators headed by PRESIDENT. These members are either pursuing their degree or graduates of engineering institute.

SPEED INDIA in collaboration with IUCEE (Indo Universal Collaboration for Engineering

Education) and its student centric activities, brings engineering students from various regions and various programs/disciplines together to work for a common theme and cause. ([www.worldspeed.org/portal/index.php/chapter/india.html](http://www.worldspeed.org/portal/index.php/chapter/india.html))

RIT SPEED is a consortium member of IUCEE & SPEED INDIA since 2013. RIT SPEED CHAPTER is fully controlled and coordinated by students. Under IUCEE-SPEED guidance the following activities are conducted.

- A) Organization of RSF.
- B) Deputation of Students to ISF.
- C) Deputation of student to GSF.

A) *Organization of RSF:* Regional Student Forum (RSF) is a three-day Residential Workshop conducted once in year; organized by selected Institutions under the guidance of SPEED INDIA.

- 1) The Trained Facilitators will conduct workshop with a theme per year.
- 2) The theme will be selected according to the requirement of the Industry or Society.
- 3) Facilitator will assist all participants to define problem, work in teams to develop Action Plans to the defined problems.
- 4) Facilitator will provide all sorts of Guidance for the effective implementation of Action Plans.
- 5) Evaluation of reports submitted by participants will be done by facilitator.
- 6) Teams which will implement Action Plans completely will be called upon Indian Student Forum.

B) *Deputation of Students to ISF:* The Indian Student Forum (ISF) is a national conference organized by SPEED India which draws engineering students from various RSF conducted in India to discuss issues pertinent to engineering education.

- Through this three-day event, students will be a part of global experience, submerged in

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the atmosphere of cross-cultural communication and creative thinking.

- Participants will take part in workshops aimed at providing them with tools to find innovative solutions with a global perspective and apply them in their local communities to improve upon engineering education.
- They will get a chance to learn about existing student projects, get involved and/or start their own regional and national initiatives with the aim of maximizing the student voice within the engineering education community.
- This event is a part of the International Conference on Transformations in Engineering Education (ICTIEE).
- Based on the participant's performance at RSF and ISF, students will be deputed to GSF.

C) *Deputation to GSF*: The Global Student Forum (GSF) is a global conference organized by the Student Platform for Engineering Education Development (SPEED) which draws academicians, representatives from government bodies, industry & non-profit organizations, and an increasing number of students from all around the world to discuss issues pertinent to the Engineering Education system. Through this week-long event, students will be a part of an international experience, submerged in the atmosphere of cross-cultural communication and creative thinking.

Participants will take part in workshops aimed at providing them with tools to find innovative solutions to issues in Engineering Education with a global perspective and apply them in their local communities. Participants will also find a great opportunity to build a valuable networking, partake in interesting activities such as community services, industrial visits, cultural evenings, workshops, intergenerational panels, and gain a once in a lifetime experience.

### 5. Outcomes of global association:

The best performers among RSF, ISF and GSF will be promoted to handle important portfolios at SPEED INDIA Level; and also, they have served as FACILITATOR for the subsequent RSF conducted in other localities.

As a Facilitator, our students have represented RIT in other institutions:

- 1) Mr. Sanket Dhadke, served as facilitator in RSF 2015 @ SGI, Kolhapur.
- 2) Mr. Jatan Malde served as facilitator in RSF 2016 @ Rajkot, Gujarat.
- 3) Ms. Namrata Patil served facilitator in RSF 2015 @ Vadodara, Gujrat.
- 4) Ms. Shivali Jadhav served facilitator in RSF 2016 @ DKTE, Ichalakarjni, Maharashtra.

Below is the summary and photo evidence of the events conducted by Rajarambapu Institution of Technology (RIT) in association with SPEED.

#### 1) For Academic year 2014:

**RSF @ RIT: (62 Participants throughout India)**  
Theme: 21<sup>st</sup> century challenges in Engineering



Fig 5(a): Regional Student Forum 2014

Tangible Outcomes:

ISF @ BVB, Hubli: (13 students have participated)  
GSF @ Dubai: One student got selected & attended.



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Fig. 5(b): Group photo taken GSF @ Dubai

**2) For Academic year 2015:**

**RSF @ RIT: (85 participants throughout India)**

Theme: Engineering education without borders



Fig 5(c). Educational Visit @ RSF 2015

Tangible Outcomes:

ISF @ BMS, Bangalore (12 students participated)

GSF @ Italy: No student deputed.



Fig. 5(d): Dr. Krishna Vedula, Director, IUCEE-SPEED Visit

**3) For Academic Year 2016:**

**RSF @ RIT (81 participants throughout India)**

Theme: Engineering Education for Multifaceted Engineers



Fig 5(e). Industrial Visit @Regional Student Forum 2016  
Tangible Outcomes:

ISF @ COEP, Pune (16 students have participated)

GSF @ South Korea: Two student Selected.

**Other Activities Co-ordinated by RIT SPEED**

1) Organizing Robotic Workshop in association with our **Knowledge Partner ARK Techno solutions, Mumbai.**

a) “Mobile Making”, Two days, **176 students** got benefitted.

b) “Drone Design and IoT”, Two days each, **210 students** got benefitted.

c) “Raspberry Pi” Five days, **60 students** got benefitted.

2) Conducted Workshop by our RIT Robotic Lab Student Coordinators. (**90 students** benefitted)

a) *Firebird V and SPARK V*

b) *ARDUINO ZigBee & GSM Interface*

c) *Raspberry Pi*

3) ARRANGED EDUCATIONAL, INDUSTRIAL VISITS (PABAL ASHRAM, RAMLING BAHE, DEENDAYAL MAGASVARGEYYA JINNING FACORY). & OTHER INITIATIVES.



Fig. 5(f): Street Play to spread awareness for a cause.

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- 4) ENTREPRENEURSHIP SESSIONS (Mr. Nitin Mali (Jataka Misal) and Mr. Uday Gadge (Brain Chambers))
- 5) STUDENT EXCHANGE PROGRAM (with JRE Noida and Gurunanak Hyderabad)



Fig. 5(g): Students in GNIT, Hyderabad under SEP

- 6) FUNDING OF SMALL SCALE PROJECTS (<http://majhaislampur.com/>)
- 7) DESIGN DEVELOPMENT OF BUSINESS MODELS IN ROBOTICS ( Robocalypse 1.0)

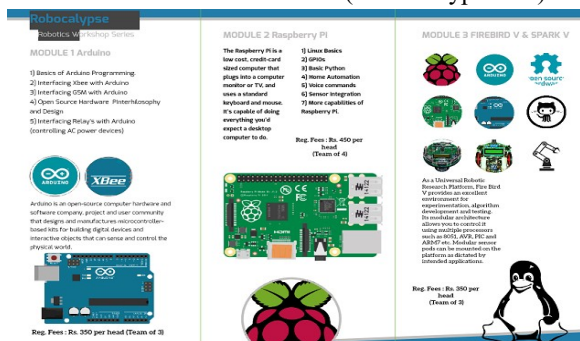


Fig. 5(h): Students develop business plan

### 6. Quantitative Analysis through DA:

Data Analytics (DA) is the science of examining raw data with the purpose of drawing conclusions about that information. DA is the backbone of the quantification process of VQ.

- The data to be analyzed can be collected from all four levels mentioned in fig 3(a) in the form of FEEDBACK DATA.
- At each level, there are feedback collected from the stakeholders, beneficiaries, students etc.
- Then it is subjected to ANALYSIS by applying strategies collectively or level wise individually.

- The outcome of strategies at each level should be based on the expectations set by the different surveys, industry requirements and other reliable sources.

For example, let's take data analyses at Student Level. At Student Level, we are taking many initiatives (like above mentioned) to inculcate different qualities in students which are expected to be present in a Graduate Engineer. But, in this process we are facing lot many problems which are leading to lot of questions. Like,

*Are we doing enough for overall personality development of students?*

*Are the students learning with enjoyment or they feel burdened?*

*If burdened, where does lacunae lies?*

*How to overcome these lacunae?*

*Are we showcasing all that we have done for the students to the stakeholder?*

*How transparent system is?*

These are questions have to be answered. Otherwise we have to face scenarios like students will use social media like Quora.com or Facebook to express their misunderstanding of the situation. Hence DA plays a crucial role in analyzing these initial data, intermediate data and final data.

In RIT SPEED Initiatives, improvising VQ involves systematic collection of data after each and every event (through different means Google forms, online feedback, paper feedback, Moodle feedback). This data is then subjected to analyses based on the Parameters Of Purpose (POP). Then by using different multimedia techniques graphs are generated on a scale of 1 to 10. Let us apply the process DA for RSF conducted in three consecutive years as shown in table 6(a).

RSF Year Wise	#. Participants	facilitator's VQ assessed
2014-15	62	3
2015-16	80	3
2016-17	81	4

Table. 6(a): Three year's data of RSF

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For the year 2015-16, the analyses of the VQ improvisation of one of the three FACILITATORS is shown below.

Sr. No.	POPs
1	Good Oratory Skills
2	High Integrity values
3	Leadership Skills
4	Professional Skills
5	Communication Skills

Table 6(b): POP for VQ Calculation

The POP to be mapped mentioned in the table 6(b) for assessing Personality Development of students. This POPs are obtained from HRs of different companies, surveys and other authentic sources. The industry demands the students should acquire these fundamental qualities. Table 6(b).

SPEEDSTER EVALUATION FORM(SEF)						
Request for Evaluator: We would appreciate if you could take a few minutes to share your opinions with us so we can improve ourselves.						
I know this SPEEDSTER during _____ for a duration of _____.						
And with this interaction I can rate him/her in following qualities.						
	Strongly agree			Strongly disagree		
1. A good listener and clear communicator	10	8	6	4	2	0
2. Have a keen sense of timing, patience & moral	10	8	6	4	2	0
3. Can motivate, support, and whip someone when needed	10	8	6	4	2	0
4. Creates an optimal process that can be customized for individuals	10	8	6	4	2	0
5. Pays attention to the details & manage egos & expectations	10	8	6	4	2	0

Fig. 6(a): Feedback Form format based on POP

VQ of RSF 2015-16 (80 participants)	
Qualities under Scrutiny	FACILITATOR 1 42 have agreed 38 not agreed
1.Oratory Skill	250/ (42+38/2) =4.09
2.Integrity	320/ (42+38/2) =5.24
3.Leadership Skill	310/ (42+38/2) =5.08
4.Professional Skills	220/ (42+38/2) =3.60
5.Communication Skill	300/ (42+38/2) =4.91

Avg. VQ	4.584
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Table 6(c): VQ Calculation of Facilitator 1

Let us take the VQ calculation of 1<sup>st</sup> Facilitator from Table 6(c). The average of the points have been added of all 42 students which is taken from SPEEDSTERS EVALUATION FORM (SEF) and taken average again by total number of students agreed to give feedback and half of the students who have not agreed to give feedback. Then you can have the VQ of individual parameter of that facilitator 1. Like VQ of Facilitator 1 is 4.09/10 @ Oratory skills. Then VQ for Personality Development under this event is 4.584.

Qualities under Scrutiny	1	2	3	EVENT VQ
1.Oratory Skill	4.09	5.25	2.66	4
2.Integrity	5.24	5.59	4.74	5.19
3.Leadership Skill	5.08	6.44	4.74	5.42
4.Professional Skill	3.60	4.74	4.44	4.26
5.Communication Skill	4.91	6.10	4.29	5.1
Avg. VQ	4.58	5.62	4.17	

Table 6(d): VQ Assessment of all FACILITATORS

Similarly, in above table 6(d), VQ of all FACILITATOR is calculated for a scale of 1 to 10. This data analyses is done with respect to,

- Individual Skill-set of facilitator E.g. Oratory Skill (4.09)
- Overall improvement of VQ in the individual skill-set of Event (4)
- Average skill set of a Facilitator. (4.58)
- All individual categories and overall contribution of Event VQ.

## 7. Results and Discussion:

Results presented in fig 7(a) and 7(b) is of all Speedsters VQ and EVENT VQ respectively. The POPs attainment is quantified and provides valuable feedback to the facilitators with respect to RSF 2015-16.



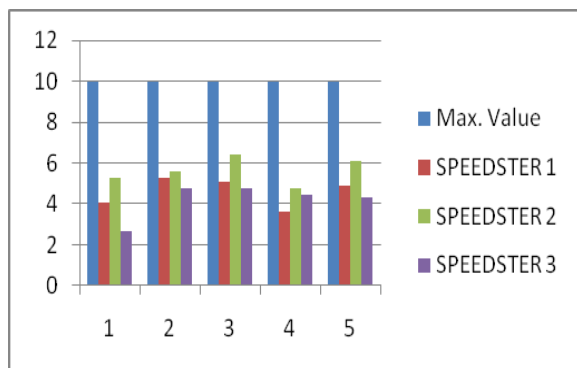


Fig. 7(a): All SPEEDSTER VQ (On scale of 1 to 10)

From this result, facilitator can experience overall impact on the participants and realise the scope for improvement. Also, similar approach can be used by coordinators to calculate the event's impact on participants.

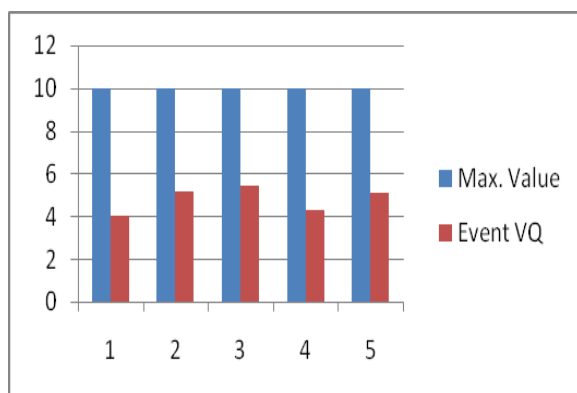


Fig. 7(b): EVENT VQ's attainment

The effective use of technology in data gathering and appropriate mathematical models for data analyses will certainly improve the VQ Calculation.

The data gathering from all the other levels mentioned above may contribute to enhance the precision level of VQ and also provide insights to make sure that institution is progressing in right direction.

## 8. Conclusion & Future Scope:

This unique blend of structured organization, need of the hour theme and carefully designed modules of VQ Calculation has assisted in quantifying the enhancement in,

- The maturity level of students.
- The networking of students.
- The personality development.

Since the process explained in this paper is at its initial stage. Lot of contribution is expected by educationalist, professional bodies and data scientist to standardize the process. This kind of feedback mechanism at each stage with embedding technology will certainly brought good exposure to students and contribute to the measurable increment in the VQ of Institution.

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