

# Data Management for Sustaining Quality in HEI

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## I. INTRODUCTION

Data are characteristics or information, usually numerical, that are collected through observation. In a more technical sense, data are a set of values of qualitative or quantitative variables about one or more persons or objects, while a datum (singular of data) is a single value of a single variable.

Although the terms "data" and "information" are often used interchangeably, these terms have distinct meanings. In some popular publications, data are sometimes said to be transformed into information when they are viewed in context or in post-analysis. In academic treatments of the subject, however, data are simply units of information. Data is employed in an institute performance, overall growth of an institute (e.g., placement data, higher studies, number of add on course's etc.), finance, governance (e.g., book purchase for library, different activity cells like anti ragging, women harassment, scholarship given to students etc.).

## II. DATA VALIDATION

Data validation is a process that ensures the delivery of clear and clean data to the programs, applications and services produced. It checks for the integrity and validity of data that is being initialize to different software and its components. Data validation ensures that the data complies with the requirements and quality benchmarks.

## III. METHODS

To evaluate the validation of the data, generalizations can be done in different kind of validation processes as per there scope, complexity and reason or purpose.

For example:

- Data type validation;
- Range and constraint validation;
- Code and cross-reference validation;
- Structured validation; and
- Consistency validation

### Data-type check

Data type validation is customarily carried out on one or more simple data fields.

The simplest data type validation verifies that the individual characters provided through user input are consistent with the expected characters of 1 or more known primitive data types as defined during a programming language or data storage and retrieval mechanism. For example, an integer field may require input to use only characters 0 through 9.

### Simple range and constraint check

Easy vary and constraint validation may study enter for consistency with a minimum/maximum range, or consistency with a check for evaluating a sequence of characters, akin to a number of checks towards common expressions. For example, a counter assessment could also be required to be a non-negative integer, and a password could also be required to fulfill a minimal size and comprise characters from a number of categories.

### Code and cross-reference check

Code and cross-reference validation contains operations to confirm that information is in step with a number of possibly-external rules, requirements, or collections related to a selected organization, context or set of underlying assumptions. These further validity limits problems with may contain cross-referencing equipped knowledge with a identified look-up board or listing info service equivalent to LDAP.

For example, a report provided dates need to be checked whether it's a holiday or working day.

**Structured check**

Structured validation permits for the mixture of different kinds of validation, together with extra complicated processing. Such advanced processing may embrace the testing of conditional limits problems with for a complete advanced knowledge thing or set of course of operations inside a system.

**Consistency check**

Consistency validation ensures that data is logical. For example, the report submitted for any events is coming as per that academic year or not.

**IV. DISCUSSION**

The data are very important for any of the institute's growth and plan day to day activities. With the help of the data and after validate and research on the data institute can improvise the activities and quality of any new or old initiatives. Sometimes this data might help the institute to rectify the problems may be internal or external recorded in the data previously. Every Institute has its own way of data validation procedure, as the data are the most crucial aspect for any Institute. Until the data of an institute is not validated it cannot be presented to the stockholders or any other places.

Once the data get validated it can be a reference point for the institute to follow for further use. With this data institute can take future planning for quality improvement and as quality get improve for any aspect the institute will grow automatically. Different type of data available in institution such as qualitative data and quantitative data

**Qualitative data**

Qualitative information may be outlined because the style of information that characterizes and approximates but can't degree the properties, attributes, or traits of a phenomenon or a thing. The information will also be recorded and noticed are usually non-numerical in value.

Qualitative information are a set of assorted forms of information, collected via strategies bekeenon one to 1 interview, observations, organizing a spotlight group, and plenty of others love this. The opposite title of this information is categorical information as it could be organized categorically counting on the properties, phenomenon or a thing.

The significance of Qualitative information might be clearly seen below.

- Qualitative information has a big position in figuring out the frequency of the traits or attributes.
- It assists the researchers or mathematicians to create totally different parameters via which a bigger quantity of information units might be formed.
- Qualitative knowledge provides the means to the researchers to quantify every thing that revolves round them.
- For a market analysis team, qualitative information supply them solutions for the questions be partial to what issues or points are their clients facing? What form of clients do they have? The place ought to the corporate shift its consideration so that every one the problems with the purchasers are resolved?
- Qualitative information offers with the problems effectively and successfully by capturing the perceptions and feelings of the people.

The above mentioned Qualitative data we can take the aspects of QLM are like calender of events, institute strategies, policies, placement strategies, budget allocation, class time table etc. Quantitative data is defined as the value of data in the form of counts or numbers where each data-set has an unique numerical value associated with it. This data is any quantifiable information that can be used for mathematical calculations and statistical analysis, such that real-life decisions can be made based on these mathematical derivations. Quantitative data is used to answer questions such as "How many?", "How often?", "How much?". This data can be verified and can also be conveniently evaluated using mathematical techniques.

**Types of Quantitative Data with Examples**

The most common types of quantitative data are as below:

- Counter: Count equated with entities. For example, the number of people who download a particular application from the App Store.
- Measurement of physical objects: Calculating measurement of any physical thing. For example, the HR executive carefully measures the size of each cubicle assigned to the newly joined employees.
- Sensory calculation: Mechanism to naturally "sense" the measured parameters to create a constant source of information. For example, a digital camera converts electromagnetic information to a string of numerical data.
- Projection of data: Future projection of data can be done using algorithms and other mathematical analysis tools. For example, a marketer will predict an increase in the sales after launching a new product with thorough analysis.

- Quantification of qualitative entities: Identify numbers to qualitative information. For example, asking respondents of an online survey to share the likelihood of recommendation on a scale of 0-10.

The above mentioned Quantitative data are the outcome of the QLM data.

For example – after placement strategy the number of placed students with their salary will be the Quantitative data or numeric data which is the outcome of your placement strategies.

#### V. CONCLUSION

To conclude the topic we would like to discuss that the QLM and QNM data are very important for any of the HEI's for any accreditation and both of the data are inter dependent. The QLM data are mostly indicating organisation structure, policy, strategies, which reflect the HEI's sustainable growth year by year.

Where as the QNM will be the answer or result for the QLM's and it also give a clarity that the strategies, policies, planning etc. are adopted by the institution are giving sustainable growth or need to modify to achieve the growth required.

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