

## “EMPIRICAL MODEL of DATA GOVERNANCE in EDUCATIONAL INSTITUTE”

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**Abstract :-** In this knowledge economy “Data and Information” is vital components of any organization. It is indeed an integral part of any organization. But study says that because of poor understanding [2] of necessity of data in terms of quality, availability, security, consistency & privacy the enterprises are losing winning advantage. To achieve corporate intelligence which is need of coming era organizations must be very strong in field of “Data Governance” or “DG “. Data Governance field which would certainly the area where different pillars in database domain are addressed. Fields like Master data management, Data mining, Data security, Business intelligence etc. are major aspects and handled in this process of governance. People must be involved and certain privileges should be given so as to improve performance of organizations at large. In this study model is suggested for Educational Institutes so as to implement data governance practices and Institute can map Industry expectation.

**Keywords—** Data Governance, Corporate Intelligence, Data Stewards,

### (I) DATA GOVERNANCE

Since Data Governance is emerging concept most of the people are not acquainted with it. So let us understand what is DG or Data Governance in brief in simple terms. Then we will look at corporate intelligence. Data governance is an emerging discipline with an evolving definition. The discipline embodies a convergence of data quality, data management, business process management, and risk management surrounding the handling of data in an organization. Through data governance, organizations are looking to exercise positive control over the processes and methods used by their data stewards to handle data.”<sup>[1]</sup>

Data governance is indeed very new to industry and it is defined as per need and functionality of institute. It is cross functional in nature. It requires technology as well as business people to formulate policies and procedure of governance along with IT systems.

Following is the definition that covers almost all the components and goals of data governance:

“Data governance (DG) is usually manifested as an executive-level data governance board, committee, or other organizational structure that creates and enforces policies and procedures for the business use and technical management of data across the entire organization. Common goals of data governance are to improve data’s quality; remediate its inconsistencies; share it broadly; leverage its aggregate for competitive advantage; manage change relative to data usage; and comply with internal and external regulations and standards for data usage. In a nutshell, data governance is an organizational structure that oversees the broad use and usability of data as an enterprise asset.”<sup>[2]</sup>

In accordance with the definition DG is nothing but controlling of data usage, data integration, and data filtering at different levels. It defines content and structure of data.

The survey made by IBM organization understand that data governance is crucial and it must be focused & so became emerging trend. Survey done by IBM of 50+ Global 5000 Size businesses regarding their investments in “data governance” and the challenges they are facing.<sup>[3]</sup>

- I. 84% believe that poor data governance can cause: limited user acceptance, lower productivity, reduced business decision accuracy, and higher total cost of ownership
- II. Only 27% have centralized data ownership
- III. Fully 66% have not documented or communicated their program, and

#### IV. 50% have no KPIs or measurements of success

Data governance cater to software tools like Metadata management, Master data management, Data quality etc. (Fig. 1)

In other terms these are the disciplines which are emerging along with DG.

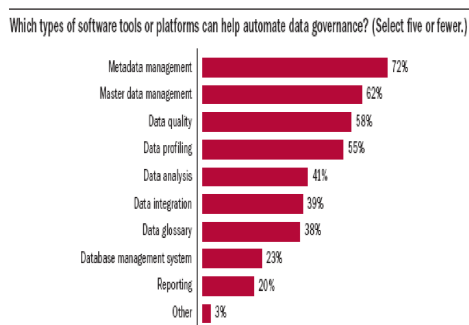


Figure 14. Based on 1,623 responses from 394 respondents.

[2]

Fig 1 DG and various emerging disciplines.

## (II) DATA GOVERNANCE PRACTICES & CORPORATE INTELLIGENCE

Intelligence is an umbrella term used to describe a property of the mind that encompasses many related abilities, such as the capacities to reason, to plan, to solve problems, to think abstractly, to comprehend ideas, to use language, and to learn. [7]

The definition is so apt which any person could experience it in day to day life. In the era of globalization organizations are highly competitive and world is changing so fast that one should understand need of overall intelligence in corporate life (both individual as well as organizational).

Now let us understand what corporate intelligence is.

“Corporate Intelligence be the overall umbrella to advise on global, national and local environments, political and legislative atmospheres, and competitive forces that influence the marketplace, and the sales of the companies products or services. “ [4]

Let us study the examples of CI (Corporate Intelligence) which is emerging in the government as well as industry.

KPMG Forensic Company is a leading provider of professional services including audit,

tax, financial and risk advisory. The Corporate Intelligence team of KPMG gathers business-critical information to help companies reduce risk, enter new markets, solve corporate problems and enhance business opportunities. [5]

Companies are dependent on consultancies for strategic decisions and they themselves don't understand or rather give importance to their own strengths and weaknesses.

In India also government and related sectors are prone to use consultancy services in case of planning and taking strategic decision. For example Lancers is India's leading **Risk Consulting Corporation** has it's corporate intelligence services which anticipates pre joint venture due diligence, vendor verifications, political analysis, geo location risk analysis, SWOT analysis of the market and competitor's prospects, etc to users. [6] By looking at surveys [8] Technology and manufacturing industries appeared in the middle of the pack, as far as management commitment, budget allocation, and age and maturity of their corporate intelligence programs. by Fuld & Company Inc. Fuld & Company Inc. ([www.fuld.com](http://www.fuld.com)) is the world's preeminent research and consulting firm in the field of business and competitive intelligence. It has offices in Cambridge, MA, and London.

Survey done by society of corporate professionals' state that 25 % of the hundreds of largest corporate says that the spending on corporate intelligence is about 14% of total company spending of \$500,000 [9]

Society of Competitive Intelligence Professionals (SCIP) says that CI is continuous process which involves ethical as well as legal information collection, monitoring and analysis of it. It enables senior management to take informed decision about marketing, research, investment tactics and development to long term strategies.

To achieve the freedom in case of passing intelligence at all levels in the organization, company must understand that CI should not be restricted to upper management level. The era is from dictatorial to empowerment people from all the levels must be involved so with proper amalgamation and congruent environment will let company get winning advantage.

The examples of corporate intelligence are endless. By looking at world's companies' performance it is indeed identified that CI is definitely emerging but it is mostly ignored. Why it is ignored? One of the reasons might be it's cost. Most of the applications of CI revolve around IT (Information Technology). IT is one of the costliest industries since it depends upon knowledge workers and there is lacuna in case of development of knowledge workers. Estimate says that Industry needs / demands more IT professionals but the professionals developed are very less as workable product hence cost.

To have winning advantage company must model the policy which will leads to corporate intelligence by involving all the personnel according to the need of functionality and need based study.

Also in the survey "Corporate Data Governance Best Practices" conducted by IBM talks about business drivers for DG and we can observe influence of those parameters through Fig 2.

The parameters are certainly essential for corporate intelligence. IBM suggested hierarchy which is shown in

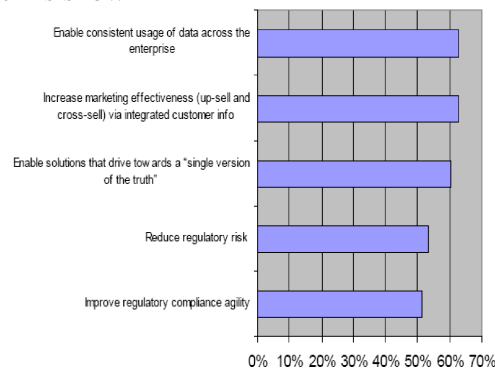


Figure 6 – "Top 5" Business Drivers for Data Governance

Fig 2 [3]

The above parameters are certainly essential for corporate intelligence. IBM suggested hierarchy which is shown in Fig 3



Figure 3 – Prototypical Data Governance Organizational Structure

Fig 3[3]

Certainly above bodies are very much important in case of Corporate Intelligence. So we can get the inference that good data governance practice will lead to smooth functioning of companies policies and it will add to corporate intelligence

Corporate Intelligence is equally important in educational institutes.

To understand this we need to first we will look at the current scenario.

### (III) EDUCATIONAL INSTITUTES SCENARIO

There are no formal Data Governance practices adopted by Education Institutes. Institutes in higher education always strive hard for improvement in quality of the students, in turn quality of Institute. For this, institutes conduct surveys which identify need of the industry. Also by observing market scenario certain quality input is given. Institutes uses expertise of corporate or individual experience of higher management lead to identification of grooming input. Institute also maintains transactional data on ad-hoc basis. There are many trials happen which lead to quality enhancement up to certain extend.

The shortfall of such practices is Institutes hardly observe data at operational level, and success of the input. Also availability and data access i.e. governance of data is lacking. At operational level data stewards keeps on changing and hence every new data steward need time to understand system which is implemented and followed. Management of Institute is also learns from different trials and new systems. Hence there is no formal data governance. Management hardly understands need and importance of data. It do not maintains its security and it proper utilization. Data is not properly collected ,organized and utilized.

### (IV) PROBLEMS FACED at VARIOUS LEVELS

There is lack of knowledge about data availability among Personnel. They have no understanding about importance and relevance of data. Lots of data is generated unnecessarily. People adopt adhoc data processing and hence

data duplication. This leads to confusion for utilization of data. User does not guarantee of authentic information for decision making. Data may not be reliable if not maintained properly. Every data steward maintains data as per his understanding, formats, and requirements. He may not be able to accommodate all dimensions needed in future. Data may not be timely available if there is more turnover.

#### (V) RELEVANCE of DATA GOVERNANCE

The need for governance exists anytime a group of people comes together to accomplish an end. When it comes to the centre of excellence (COE), the only thing simple about governance is the imperative that it exists. Without governance, the COE can become aimless and ineffective. With governance, the COE can establish authority, can be positioned to efficiently and effectively carry out its mandate, and can facilitate a collaborative environment. Governance will allow the COE to help the organization reap the benefits from its data assets, minimize total cost of ownership<sup>[10]</sup> If shortfall of educational institutes would be removed by formal technical method then certainly institute will get need based relevant, reliable, authentic and timely data. This study will lead to introduce formal DG model. Objectives behind this study and model are:<sup>[11]</sup>

- a. To achieve clarity
- b. Ensure value from efforts
- c. Create clear mission
- d. Maintain scope and focus
- e. Establish accountabilities
- f. Better decision making.
- g. Reduce operational friction
- h. Protect needs of data stakeholders
- i. Build standard and repeatable process
- j. Reduce costs and increase effectiveness through coordination of efforts
- k. Ensure transparency of process

Study includes following components:

- i. Process
- ii. Framework for DG
- iii. Conduct of DG
- iv. Stakeholders

1. *Process*: DG formation decides about devising new policies, rules & regulations. Also it forms and organizes components. It decides Norms for review, follow up of data governance. For setting up the rules and policies DG must mainly focus on standards, Data quality, privacy, security and integration of data. Make decision making measures and control policies depending on the earlier outcome or success rate. This also decides about metrics and measuring techniques. These techniques would be refined based on the feedback from DG conduct. Mission and Vision are not a part of formation process they are decided by the organizing body and followed in DG.

2. *Framework for DG*: Data governance framework is a logical structure for classifying, organizing, and communicating complex activities involved in making decisions about and taking action on data. Following additional components apart from those already defined in process could be observed in Fig 4.

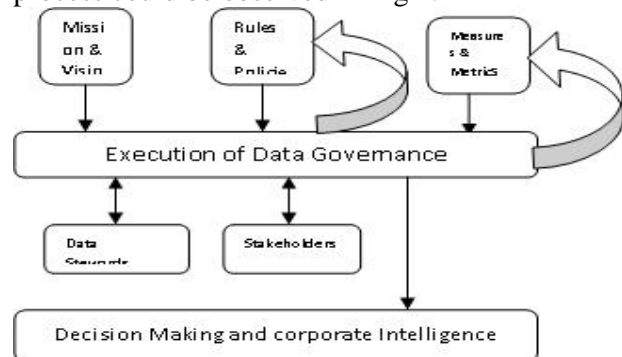


Fig 4. Data Governance Framework

- i. *Data Steward*: Data stewards come together and make decisions about data, policies, and rules of governance of data. They may craft recommendations for higher level management.
- ii. *Stakeholders*: All direct and indirect human resources involved in DG conduct are called stakeholders
- iii. *Execution of DG*: DG conduct implements process and framework, also it executes as per norms defined.
- iv. *Decision making*: Based on data accessed as per governance, rules, accessibility of data, decision making will take place. This could be at top level, middle level as well as operational level.

- v. Advantage of right decision making at right time will lead to corporate intelligence.

#### (VI) CONDUCT of DG

Data Governance is the activity which gives quality, timely, correct data also it maintains integrity of data.

While implementing data organizational committee adhere to mission & vision of organization. They should have their own mission & vision for data governance. Based on DG mission vision, rules, regulations will be formulated. Once all policy matters are discussed with consent of all others committee members, they must get approval of final authority. Committee must understand hierarchy or organization chart. In context with DG, committee must identify different components and their organization. After this organization chart they must identify data stewards'. This will give understanding about data stewards' work profile, accountability, permissions & rights. Data stewards may be divided into separate department or units.

Conduct of DG includes reviews, follow ups and brain storming meetings. These will help committee members to take certain strategic decision. In this component, data stewards prepare road maps, they design programs, apply these in case of governance of data. Data stewards monitors and measure all activities against norms set. Feedback is given for enhancement, refinement of policy matters.

#### (VII) ACADEMIC ENHANCEMENT

Data governance practices will certainly result into academic enhancement. Since operational level data which is following all parameters of quality will be maintained and monitored by data stewards.

Formats of data are predefined and defined/ redefined by consent of all other data stewards / committee members and approval is taken from concern authority. Later this data will be maintained by all concern operators / data stewards at central repository. This repository will be accessible by other with proper privileges.

Newer versions should be maintained according to year / batch, semesters, different domains and disciplines. Newer formats will be refined if necessary and made available in standard template.

#### (VIII) CORPORATE / INDUSTRY COLLABORATION

To bridge the gap between academic industries collaboration is the tool for which different stakeholders' role is very crucial. Some of them are corporate, alumni and academic experts / consultants. Data / information extracted from them could be paramount importance.

Like Corporate feedback about students regarding competencies, skills, attitude will result in identification personality grooming requirements. This data is short term and must be maintained from time to time as per industry requirements. For this some data stewards must be allotted for such data collection, compilation. After collection of data DS must organize it and they should give feedback so as to take decision about personality grooming programs / contents. Same process could be applicable for technical inputs required as per industry requirements.

Alumni feedback / interaction programs with students can help to change their mindset. Alumni feedback is crucial at micro level operations in educational institutes. This will let faculties understand comprehensive training required. Also students get insight of corporate world, need , work culture. Alumni related data is historic data and need to be maintained periodically.

Academic experts / consultants are identified for upcoming trends, latest technologies so as to keep students competent to outside world. Updated data is very much necessary for approaching such experts.

Regulatory bodies should include renowned personalities from major relevant sectors. Such bodies meet regularly and make strategic decisions. These decisions must be followed in DG.

Staff of the organization must maintain data regarding student background, continuous progress, impact of training / workshop on

overall development of each student. Such data is also timely; it must be maintained on regular basis as per defined format. Newer formats needed for more analysis is defined by data stewards. All other must adhere to it.

All these stakeholders play very important role in data collection, formation and analysis. All their activities will result in strong repository. This repository need to be updated regularly. Data must be timely, correct and authentic. Such practices will help in long run success. Decision making will be smooth and correct. This is nothing but corporate intelligence.

### ( IX) CONCLUSION

If Privileges and rights are freely flowing through organization and proper comprehensive data governance practices present among the groups mentioned above will lead to centre of excellence in the organization. Which certainly allow personnel to understand their roles Based on data (available), information generated through DG they can apply their intelligence and experience. This could lead to competitive advantage for institute.

Through this institute can learn, experience, share, evolve and expertise in their own field. But since this field is emerging corporate world and professionals should not ignore it. Involvement of personnel and some research on policies and practices will drive understanding about data governance field and certainly institute can take advantage of it.

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