

# Dashboard for Monitoring the Real Time Data in Educational Organization

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**ABSTRACT**—Nowadays, Data Analytics is playing crucial role in many sectors including educational institutes. Analyzing data and presenting data as dashboards is a recent strategy. Dashboards save analyst time for organizations, typically by highlighting overall statistics in graphs or summaries in tables. The dashboard makes it easy to understand the scenario and support the decision-making process effectively. We proposed the dashboard to monitor the entire Academic and Administrative work of students and faculties to reduce the man-hours of any college. The normal duties of the Head of the department or Principal are to get the work done and represent the same to the higher authorities. We propose the dash board that will not only help to showcase the statistical data in the form of graphs but also give the facility to drilldown the summary for in-depth analysis. This dashboard will reduce the man-hours and make the head work efficiently to answer the queries of the organization from anywhere.

**Keywords**— data analytics, dashboard, google spreadsheet, organization, statistical data, decision making

## I. INTRODUCTION

The decision-making process of any organization requires enormous amounts of data resources to determine the long-term direction of the organization it leads. Making the right decisions is supported by the speed of data availability and accuracy. All organizations need to use data and technology platforms to get information quickly and accurately. In fact, data is

the result of processing various pieces of information available for a specific reason. It is highly desirable for departments in an organization to have a good visual representation of information of facilitate decision-making. The large amount of available data can make it difficult for organizations to sort and process more useful information. Raw information can be difficult to see. But, all of those rows and columns are frequently out of the way to handle and understand. This is where dashboards come into play. They turn information into data by making distinctive charts, tables, and other visual components to represent the decision making issue by analyzing.

## II. RELEVANT WORK

This study has opened up our minds to explore completely the concept of dashboard and its characteristics within the Educational organizations. To come across this issue, we began our studies by observing all factors, criteria and definition of dashboard. Some time recently we carried out the second stage of the study which is collecting the suitable materials.

With the help of secondary data analysis the researcher had reviewed various books, journals and studied the concept and implementation of the dashboard.

Dashboards are increasingly being used in higher education to track classroom performance by a variety of stake holders, including students [2], Universities track student learning, receive feedback on pedagogy[3], and also have university administrators[16] who manage and support advisors, students, faculty, and staff who help students make decisions. Researchers have made significant contributions to our knowledge of how to produce LAD s in higher education. Building on this knowledge framework, LAD sees opportunities to strategically increase diversity, equity and inclusion in higher education[1].

Learning dashboard, Learning Analytics Dashboard, Learning Analytics Dashboard, Data Dashboard, and Web Dashboard are all words used to describe the learning dashboard. Similarly, other definitions of dashboard have been proposed. "It provides a visual representation of the most important information needed to achieve one or more goals. It's on one screen, so you can see all the information at a glance," says Steven Few.[14][15].

We should either call for Further LAD studies to focus on this important topic, or use current social justice momentum to critically examine What LAD stands for for Diversity, Equity and Inclusion. We would like to inform you that researchers are interested in developing data-driven dashboards. Students that have been historically marginalized talk about their experiences.[2][3] The Equity Scorecard project. The undertaking consists of a theoretical foundation for initiating action with practical techniques Changes in institutions that will result in more equitable results for all Colored students "[4] After that, Dashboards are built to provide contextual metrics for long-term planning. Initiatives are evaluated. Although the focus of this study is on this approach, it can be modified using organ data at the macro level. This also applies to apps that use granular data at the course level. Researchers interested in creating dashboards based on the experiences of historically marginalized learners are encouraged to refer to the Equity Scorecard project[2][3].

Learning Panel Study Objectives: Determine how data can be used to support critical data and thought processes for a variety of stakeholders. It is gaining popularity due to the growing use of educational technologies such as learning management systems (LMS) and large open online courses (MOOCs). G Scholar's initial search in five major academic databases yielded 346 papers, of which 55 were included in the final analysis. The purpose of reviewing dashboard

studies is to identify data that is important to a wide range of stakeholders and how it can be presented to aid decision-making. As educational technologies such as learning management systems and large-scale open online courses are widely used in large-scale open online courses, learning panels are becoming common [5]. A pre-search of five major academic databases and G Scholar yielded 346 publications, of which 55 were used for final research. Because the subject is still in its infancy, most research is exploratory and experimental in nature. This article ends with a definition of a learning dashboard, a list of open issues in this area, and directions for future research. Both longitudinal field studies comparing alternative dashboard designs and studies are needed.[6]

To make a dashboard useful as a decision support and learning tool, researchers must first understand what information should be displayed on the dashboard and how it should be presented in the right way at the right time [7]. Existing review panels focus on small case studies and control cases. Duval et al., for example, looked at a variety of data visualizations and dashboards to get ideas for their own. Development of a learning dashboard [8][9].

To create dashboards that are useful for decision-making and learning, researchers must first understand what information should be displayed on the dashboard and how it should be presented accurately and at the right time [14].

### III. PROPOSED METHOD

When analytical data is needed in educational organizations, they focus on student and faculty development parameters. This data comes in the form of huge data sets. To address the issue of managing these massive data sets in a customized format, the researcher created a dashboard. This proposed system will help to visualize data in the proper format. When various committees like NAAC and NBA scrutinize the data, they can be provided with suitable links as per their requirements in the proposed dashboard.

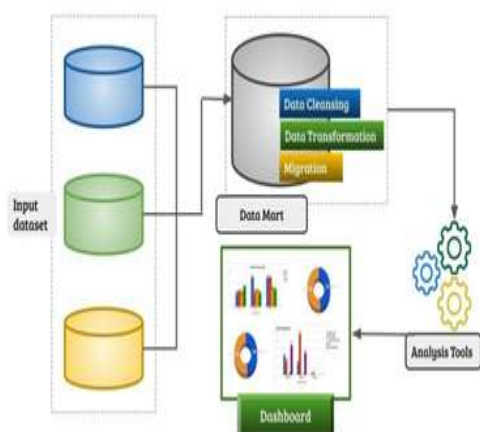


Fig.1. Proposed system architecture

The above diagram gives us an idea of how we can use the dashboard in the higher education system. For this system, we first need an input dataset. We will take the spreadsheet as input, then perform some operations on it, such as data migration, data transformation, and data cleaning, before performing data analysis. The cleaned data is given to the analysis tool. Some processing will be done, and we will visualize the data on the dashboard.

With reference to the students take holder dashboard, which shows student strength, student results, placement statistics, and student achievement for the respective academic year.

With reference to the faculty's take holder dashboard, which shows faculty responsibilities, faculty load, and faculty achievement of the respective faculties according to year.

In the proposed dashboard we visualize the data in the various graphs and charts.

#### IV. EXPECTED RESULT

The Proposed dashboard is expected in improving the parameters like diversity, equity, and inclusion as compare to the existing system

In order to address the diversity issue, we can make use of visualization of student enrollment for improving the admission of students according to areas, gender, merit

In order to address the equity issue, We can make use of visualization of Student result for improving the results of students according to subject and quality of results

In order to address the inclusion issue, We can make use of visualization of students Achievement for improving the participation in co-curricular and extra-curricular activities.

In order to address the inclusion issue, We can

make use of visualization of staff Achievement for improving the research activities.

#### V. CONCLUSION

We proposed a dashboard that is useful for representing data in Visual form so as to make available all information at one place, which will save time, as well as represent all data in organized format. Because of central and accurate availability of data the Higher authorities can focus on improvement of organization in terms of administration, admissions and results. Thus the proposed system is expected to solve the problems of diversity, equity and integration into the current system.

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