Holistic Survey Approach Using Business Intelligence Tools

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Abstract: **The survey web application which takes survey or feedback in various aspects such as academics, transportation, hostel facilities etc.Admin has the privilege to create and publish any kind of surveys anytime to any user groups.Admin could also view the responses and reports generated from different surveys. Reports generated will help us to solve those issues and give fruitful results. User groups can comprise of faculties or students who are hostellers, dayscholars and also those who avail transport facilities.Admin has the right to create dynamic feedback or surveys.User could also view the end date of the survey he/she has to finish.Whenever the admin uploads the survey, user gets notified and he could submit the survey within the due date.Survey may be applicable for some user groups or for the whole institution. Any time it is possible to get all the responses or the survey taken up by the particular student. Finally, the reports will be generated using business intelligence tools.**

Keywords: **SSIS, SSRS, survey, business intelligence, reports**

I. INTRODUCTION

Business Intelligence technology is used to improve the business goals and process by gathering the available data and processing it to get the desired result as proposed by the user. In this survey applicationwe propose the user to give their suggestions, opinions or feedbacks in various regards.All those responses will be taken into account and various analysis will be proposed to get the desired output.Output will be in the form of either table or charts which are done by different analytical algorithms. Various tools used in business intelligence are SQL server management, SQL server integration services,SQL server reporting services, SQL server analysis services. According to user perspective charts can be drafted by using different parameters that are done using SSRS.

II. BUSINESS INTELLIGENCE

Business Intelligence is a tool which is mainly used for online analytical processing, data mining, data analytics, reporting and several other applications. Business Intelligence typical components are gathering, integrating, sharing and analysing the data.It provides believable information to help making effective and high quality business decisions. Operations in business intelligence are extract, load and transform. Business Intelligence systems are based on Data Warehouse technology. Data warehouse gathers information from various company databases. The data loaded to database will be integrated, cleaned and it provides credible information. Tables available in data warehouse are fact table, dimension table, reference table, lookup table. Schemas available in data warehouse are star schema and snowflake schema. In order to implement business intelligence concepts we make use of the business intelligence development provided by Microsoft. Currently we are using Microsoft version of 2012 that are accompanied with the SQL version of 2012.Upgraded versions include new features that are used with it.

Fig1-Business Intelligence Work Flow

III. SQL SERVER MANAGEMENT SERVICES

SQL Server Management services(SSMS) is an integrated environment that is used for managing any SQL infrastructure. SSMS is used to access, manage, configure, administer and develop all components of data warehouse. It also allows you to deploy, monitor, and upgrade data used by the database. It is the base for business intelligence environment. Database could be created by using SSMS.SSMs provides many number of built-in functions and components in order to make our application easier and effective. In SSMS structured query language is used to access and work with database for manipulating the data. The tool includes both script editors and graphical tools which work with objects and features of the server. The feature of SSMS is the Object Explorer, which allows the user to browse, select, and act upon any of the objects within the server.

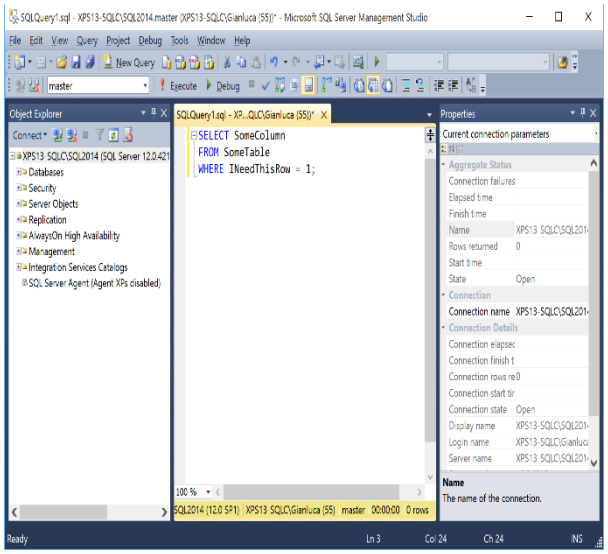

Fig2-SSMS layout

IV. SQL SERVER INTEGRATED SERVICES

SQL Server Integrated Services (SSIS) is a tool to perform ETL tasks (Extract, Transform, Load). SSIS provides an ability to retrieve a data from just about any other sources. It performs various transformation of data. For example, convert from one type to another, convert a lowercase to uppercase and perform calculations etc. It is used to load data from various sources. The first version of SSIS was released with SQL server 2005 studio. It is a replacement of Data Transformation Service (DTS). SSIS features are building and debugging of packages, executing SQL statements, tasks for performing various workflow functions. It consumes data which are difficult like FTP, HTTP. SSIS provides transformation functionality. It is tightly integrated with Microsoft Visual Studio and SQL Server. SSIS handles heterogeneous data sources at same package. It is very easier to maintain and package configuration.

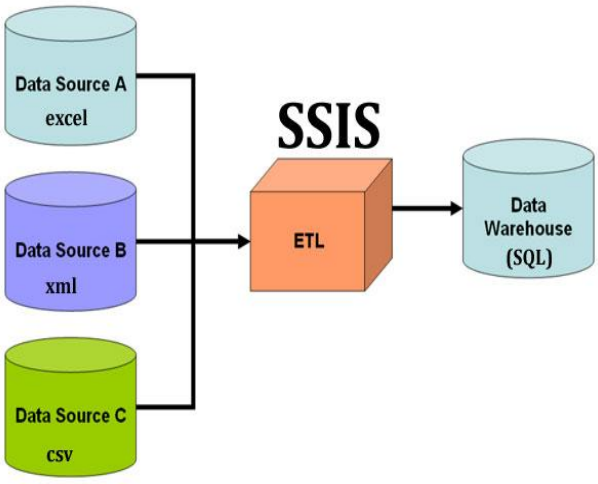

Fig3-SSIS workflow

There are generally three panes in SSIS such as Toolbox in which all the components are listed. Middle pane is a design tab which is the workspace for design the workflow. Right pane is the solution explorer in which the properties of the project can be altered or modified and it also shows the hierarchy of the project. The different connection managers are listed at the bottom of the design tab. It can also be created for different type of sources and destination.

In the design tab there are four main views such as control flow, data flow, event handler, package explorer. It also contains the progress or execution results tab which depends on whether the ETL is on process.

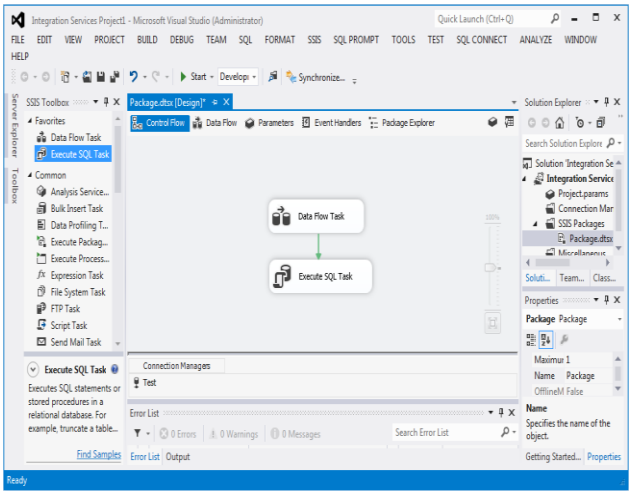

Fig3-SSIS Working Window

V. SQL SERVER REPORTING SERVICES

SQL Server Reporting Services is a server based reporting software introduced by Microsoft. It is a combination of SQL Server Express, SQL Server Integrated Services and SQL Server Analysis Services. It will administer through web interface. It isused to prepare and deliver a variety of interactive and printed reports.It provides an interface into Microsoft Visual Studio and using this many developers and SQL administrators can easily connect to SQL databases.It also provides a 'Report Builder' tool for less technical users to format SQL reports of lesser complexity. It uses SSRS tools to format SQL Reports in complex ways. SSRS can also generates reports in Microsoft Word (Doc) format. Some of the other formats that reports will be generated are Excel, PDF, CSV, XML, TIFF. SSRS 2008 is a full featured application that provides report design, development, Testing. The main components in this application are Databases, Windows Services, Report Designer. In this reporting will be done using business intelligence tools. It is easy to understand and analyse the particular growth based on that future enhancement will be provided. Many business organisations make use of this tool for developing their projects in better way.

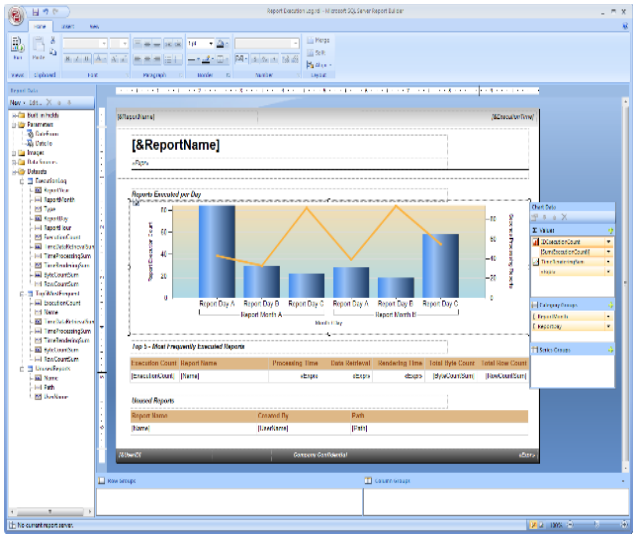

Fig4-SSRS Working Window

VI. SQL SERVER ANALYSIS SERVICES

SQL Server Analysis Services is analytical data engine used in business analytics and decision support. This Workflow creates a multidimensional or tabular data model project in visual studio. It will be available in two different platforms such as Azure Analysis Services and SQL Server Analysis Services. It is an Online Analytical and Transactional Processing (OLAP) and datamining tool in Microsoft Server. SSAS is used by different organisation to analyse the information which is spread out across different database. Analysis Services comes into two types such as tabular and multidimensional. Organisational data will be more secured when using SSAS solutions. It will be accessible anytime and anywhere through internet. SSAS involves efficient configuration or business intelligence development. SSAS allows user to analyse the data using tools with Excel and SSRS. It enables the discovery of data patterns and develop the SSAS cubes that make sense, organize the data.

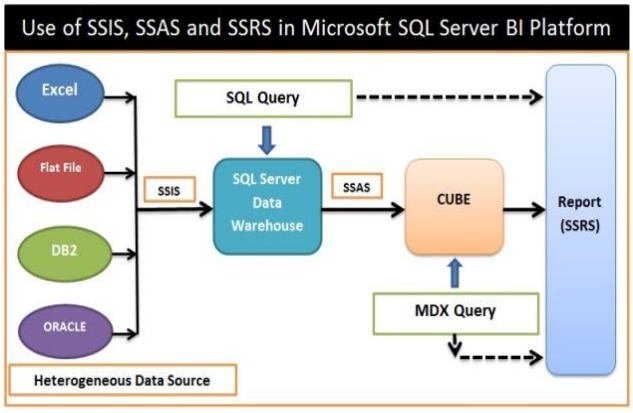

Fig5-SSAS workflow

VII. CONCLUSION

These are the concepts available in Business Intelligence. Using Business Intelligence the data can be processed, analysed and generates the report for future enhancement. In the SSMS tool the SQL query will be generated and maintained in the respective table. All the data from client side will be move to Staging. Staging means duplicate copy of client database. All the changes will be done in staging database. Database will be extract and transform to data warehouse. In the SSIS provides an ability to retrieve a data from just about any other sources. It performs various transformation of data. It converts one form to another using this tool.SSRS isused to prepare and deliver a variety of interactive and printed reports.It provides an interface into Microsoft Visual Studio and using this many developers and SQL administrators can easily connect to SQL databases. SSAS is used by different organisation to analyse the information which is spread out across different database. Analysis Services comes into two types such as tabular and multidimensional. Organisational data will be more secured when using SSAS solution.

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