



## Digital Receipt

This receipt acknowledges that **Turnitin** received your paper. Below you will find the receipt information regarding your submission.

The first page of your submissions is displayed below.

Submission author: Abdul Waheed  
Assignment title: FYP  
Submission title: Thesis  
File name: Over\_the\_past\_few\_decades.docx  
File size: 132.95K  
Page count: 7  
Word count: 3,028  
Character count: 15,526  
Submission date: 04-Nov-2019 10:54AM (UTC+0500)  
Submission ID: 1206509224

### 1. Introduction

Over the past few decades, each corporation depend massively on decision making system for business growth and stay competitive in business community. This type of decision making system massively depends on database and some kind of connected analysis tools for success. To approaching this objective, data of each corporation come from different independent sources are arranged and stored in special purpose database generally called DW. To enable OLAP data warehouse adopt Extract Transform and Load technique to combine heterogeneous info in corporation. DW are large database used by business analysts to extract useful information for make quick and more desirable decision. Old DB's like OLTP used to access limited rows but at the same time provide read and write access. On the contrary DW environment (OLAP oriented processed complex queries quickly and efficiently) contains large data sets that are read only and not frequently updated. DW OLAP process normally implement in many different ways e.g. filter, aggregation, count, min, max, sum, average and group by data also some customized aggregation operations. These OLAP queries are normally very complex and consume so much time to complete because data warehouse contains extremely large data often more than 2 billion rows for analysis and updated only periodically. In data warehouse environment, processing these queries faster is very critical issue. Most of time the result of these complex queries are falsy and unable to find relevant facts.

To speed up query response time and provide most beneficial visualization, OLAP application generally designed in such a way that provided multidimensionally modeled for viewing the data in many business aspects. For example, in pharmaceutical sales data warehouse, sales amount, sales volume and sales geographic area are some dimensions in which user show interest. Generally four types of analytical in OLAP include roll up or aggregation (decreasing detail or level of aggregation like cities dimension rolled up country) and drill down (expending detail or level of aggregation like quarter dimension drill down in month) onward some other dimension dice and slice (projection and selection like filter cube by quarter one or include more dimension like filter cube by quarter and product) and pivot (rotate the dimensions give alternate view of data). In OLTP environment if we are trying to view data in multidimensional against the operational databases or traditional databases the result is unsatisfactory performance. Additionally, in operational databases data maybe missing that require for decision support; for example, if we want to make future prediction we need historical data, whereas operational databases deals only current data. Despite this fact, in data warehouse data come from different heterogeneous sources including several operational databases and external source like stock markets etc. Because data come from many different platforms that may be inconsistent, raw or badly formatted. That's why in multidimensional data cubes and operations generally require special data arrangement, different techniques for access and implementation. Old DBMSs that targeted for OLTP doesn't need special methods because data is stored in it is highly normalized. But in data warehouse environment many research issues identified by [Wu97]. Data warehouse are needed new design approaches and tool for aligning RDB and multidimensional, aggregation support and