DBW624 – Assignment 1
Business Requirements and Logical Model

We are going to build a Warehouse to analyze a business which sells personalized products (regular products, but, includes the name of the customer on the product).

Some examples of such PRODUCTS could include:

- Golf clubs and other sports equipment
- Magnets
- Bedroom door signs
- Graduation plaques
- Retirement plaques
- Sports jerseys
- License plates
- Etc.

We will also have some PRODUCT GROUPS for our business based on the following four age groups of our customers.

- Infants (ages 0-12)
- Teenagers (ages 13-25)
- Adults (ages 26-59)
- Senior (ages 60+)

This Warehouse will be a SALES data warehouse.

The company will operate in Ontario only.

We are going to use a STAR SCHEMA as the data model for this warehouse.

Here are the business analytics we will want to perform regularly against this warehouse.

1. Sales Volumes Analysis by fiscal quarter
    a. By Store
    b. By Product
    c. By Product Group (Age Group)
2. Sales Revenue Analysis by fiscal quarter
    a. By Store,
    b. By Product
    c. By Product Group (Age Group)
3. Sales Profit Analysis by fiscal quarter
    a. By Store,
    b. By Product
    c. By Product Group (Age Group)
4. Product Line Analysis by fiscal quarter, measured by revenue and profit
    a. Which products have been the most / least successful
    b. Which product groups have been the most / least successful
    c. What are the product trends (growth or declining)?
5. Store Analysis by fiscal quarter, measured by revenue and profit
    a. Which stores are the most / least successful
    b. What is the growth trends for each store (growth or declining)?
6. Additional Analysis
    a. Which names have been most successful by volume

b. Which gender has been most successful by volume
c. Who was the top sales person for the quarter?
d. What percentage of sales are cash versus credit card?
e. What percentage of sales were using a marketing campaign?

There are also several sources of data we will use to build REFERENCE TABLES in our Warehouse.

1. Names (male and female) in Ontario
    a. http://www.ontario.ca/government/open-data-ontario
    b. There are two separate files to down load. One for males and one for females
    c. Just search on "male baby names" and "female baby names" to find the source of data
    d. File name is ontariopbabynames_male_1917-2010_english.csv
    e. File name is ontariopbabynames_female_1917-2010_english.csv
    f. You can merge the two into a single reference table – or – keep them separate.
2. Population Table
    a. http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/demo05a-eng.htm
    b. Look for file: demo05a-eng.csv
    c. It is under the summary tables area
3. Average expected life span (male and female)
    a. http://www5.statcan.gc.ca/access_acces/alternative_alternatif.action?l=eng&keng=5.3&kfra=5.3&teng=Download%20file%20from%20CANSIM&tfra=Fichier%20extrait%20de%20CANSIM&loc=http://www20.statcan.gc.ca/tables-tableaux/cansim/csv/01020512-eng.zip&dispext=CSV
    b. File name is 01020512-eng.zip
    c. You can also extrapolate back in time from the data at this web site
    d. http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/health26-eng.htm

For Assignment 1, you will build a logical data model which will meet the above business requirements.

The logical data model should include an outline of your star schema, consisting of your fact table and dimension tables. It should also include your reference tables and a definition table. The star schema should include a clear mapping of your primary key / foreign key relationships.

Other assignments will build off of this assignment, so, take the time to make sure you build a solid foundation in your logical model.

What you will hand in for assignment #1 is your logical data model diagram in a doc, docx or pdf file.

This assignment is worth 6% of your final mark.