**For each task, a new process flow should be done.**

**Calculate age**

Calculate the customer’s age and store it as new integer variable, named “Customer

Age”. Assume that today’s date is 01/01/2019. Additionally, you should check if the data

are rightfully stored by the system according to the GDPR regulation. In particular, the

company is not allowed to keep data for under-age persons (i.e., less than 18 years old).

A conditional report should be generated in the cases where such customers exist.

**5. Recoding**

A. Based on the “Customer Age” variable, create a new variable named “Age Group”

that is calculated as follows:

**Condition (years) Recoded Label**

1 - 18 “Under 18”

18 - 25 “Very Young”

26 - 35 “Young”

36 - 50 “Middle Aged”

51 - 65 “Mature”

66 - 75 “Senior”

> 75 “Very Senior”

B. The supplier code (Supplier\_ID) of each product is contained in the 9th digit its SKU

code. For example, for SKU code 58720393450301, the supplier code is 4. Use appropriate functions to store the supplier code as a new column named Supplier\_ID.

**B. Basic Analysis**

**1. Invoice Total Items**

Create a report with the Total Items for every invoice.

The report structure should resemble the following (partial results):

**2. Invoice Total Value**

Create a report with the Total Value (i.e., Quantity x Price) for every invoice. Beware

that there exist price discounts that can be seen in the promotions data set. Take into

account all the invoices no matter if they are Sales or Returns.

The report structure should resemble the following (partial results):

**3. Region Analysis**

Create a report with appropriate graphs to demonstrate the contribution to the

company’s revenues of each region of the country. For the top region found show the

contribution to the company’s revenues per gender.

**4. Basket Analysis**

Create a report with appropriate graphs that describe the average basket. The report

should include at least the number of SKU’s, total monetary value, etc. Comment on

your findings.

**5. Demographic Analysis**

Create a report with the demographic analysis of the customers. Your report should

include the analysis (tables and graphs) of appropriate variables and should be

performed at a national and regional level. The report should include a pie chart and a

frequency table with the percentages of customers that belong to each age group.

**C. Advanced Analysis**

**1. Product Rankings**

Create a report that shows the top products per product type with respect to total sales

value. The report should include the ranking of each product. Furthermore, the report

should also include the subtotal sales of each product type at the beginning.

**2. Behavioural Characteristics**

Create a report that analyzes the behavioral characteristics of each age group (visits to

the stores, number of distinct SKU’s purchased, total cost of purchases). Augment your

analysis by providing pie charts for the behavioral characteristics for each age group.

**3. Promotions Analysis**

Create a report with appropriate graphs to show what is the percentage of products

that are sold with and without promotion. Create a format to display the 0% promotion

as “No Promotion” and the 10%, 20% and 30% as “Promotion”. Additionally, create a

pie chart to show the percentage of products that are sold on each promotion type (use

the description of the promotion and not its code). Do not include the products sold

without promotion.

**4. Daily Sales**

Create a report with appropriate graphs to answer the following managerial question:

“Is there any difference among the various days with respect to the number of distinct

SKU’s per invoice.”

**5. Supplier Analysis**

Create a report, which includes appropriate charts, to show an analysis of supplier sales.

The report should include the percentage of products that each supplier supplies, the

total revenue generated by these products and the weight of that revenue (i.e.,

percentage of that revenue against all the sales).

Finally, create a cross tabulation table, using the Summary Tables Wizard task to show

the total revenue of the company with respect to the country origins of the products

sold by each supplier. Use the names of the suppliers and the names of the countries

of origins and not their codes. Add the total revenue in the middle of the cross

tabulation, the origin in the rows and the suppliers in the columns