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Data Mining Techniques Managing Big Stores Departments Places

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Abstract: *The best brands know that staying on top of the whole sale process is serious to closing the deal. But how can you keep on top of your sales process if you do not participate every step of the way. Product distribution place is an important step that is often overlooked where brands choose the least or easiest option instead of developing a legitimate distribution strategy. In this paper, we will tell you everything you need to know about product distribution places, ranging from different distribution strategies to who is responsible in the business, so you can improve your distribution strategy to achieve the highest performance on the shelf. Our strategies going to focus on the customer's eyes moving during the shopping occur for three categories children, adults and elders.*

Keywords: *Data Mining, analysis criteria, Eye Movementanalytics, Technology for Data Mining Analytics*

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I. Introduction

What is Data Mining?

Data mining is a procedure used by businesses to turning raw data into valuable information. By using software to aspect for shapes in large lots of data, businesses can learn more about their customers to develop more real marketing strategies, growth sales and reductionprices. Data mining depends on effective data gathering.

With advances in technology, different changes have been observed in ways of organizing and retrieving information, taking advantage of available data. Data mining gives us the ability to see patterns, predict the future, and make informed decisions based on evidence in large databases [1].

Carrefour for example consider central storekeeping guaranteesimproved layout and control of stores, reasonable use of storage space, saving in storage costs and nomination of experts for treatment storage difficulties. It further ensures continuous stock examination. The big stores are recognized users of data mining techniques. Many big storeproposition free loyalty cards to clienteles that give them admission to cheap prices not accessible to not members.

The cards style it easy for big stores to track what customers is buying what, when the customers are buying it and at what price. After investigating the data, big stores can then use this data proposition customer's coupons targeted to their buying behaviors and choose when to put items on sale or when to sell them at full price.

Data mining be able to be a source for concern when a business uses only chosen information, which is not representative of the general sample collection, to show a certain hypothesis.

Data extraction plans analyze relationships and patterns in user-driven data. For example, the company can use the data extraction program to create modules of information. To explain, imagine that a cafeteria desires to use data mining to control the time at which particular special offers should be made. He looks at the information he has collected and makes the chapters based on the time of the consumer's visit and what they request.

In other cases, expert analysis find data sets founded on logical relations or look at gatherings and serial patterns to draw assumptions about styles in consumer behavior.

The store management system executes store operations, using a mechanical assembly of correspondence at the store, linked to at least one storage station on the first line inside the store and connected to a second line server outside the store.

Carrefour, for example, keep in mind that centralized storage ensures improved warehouse control and control, economic use of storage space, storage costs and expert recruitment toaddress storage problems. The continuous inventory inspection is also guaranteed.

The two means of the objectives are:

- One of the goals of Carrefour stores is to increase sales for each of its premium sections, as well
- To guarantee most effective utilization of existing storage space and workers busy in the process of storekeeping

Retail store operations are all about activities that keep the store working well every day. In the best stores, everything is carefully considered, planned and implemented. Operations include many aspects, such as store design, placement, customer service, and extension.

Design and aesthetics are a key part of the shopping experience. The design is both art and science, and often uses data to help make choices, such as displaying the product and positioning it. The following are design aspects that fall under retail operations.

Visual promotion and presentation: Create attractive offers for products to set tone and expectation. Sometimes, you do not just sell a product - you sell an experience. Sends a delightful display of merchandise to a potential buyer, as well as does a dirty and rude table. Even the height at which the elements are placed can make a big difference. Some professionals use a retail diagram, a type of chart, to identify items in the store.

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How are distribute the products for customers when they enter the store?

Here we can have classified the customers in three categories:

Eye Movement in Children

Eye movements tell a lot about vision, even if the child is before the pronunciation. How a child follows faces or big things is evidence of his visual abilities. But the first look of children entering the main store looks up. This movement continues with it even before reaching adulthood [2].

What Is Product Distribution Places?

Let's develop the technique. Distribution Requires a product to be procured through distribution through departments or units. It involves locating the right product for the right customers, high level shelf product, and the right place.

Distribution is essential to the company's sales. Distribution plans depend on the kind of product being sold. The trick is to figure out the type of distribution you will need to achieve your growth goals.

Distribution management focuses on a particular area within the store allowing them to develop strong relationships with other departments. Distributors are directly responsible for ensuring that products are removed from retail shelves.

Enhances the appropriate distributor exposure of the company in the product market and can give an advantage in terms of speed and efficiency.

What Is Product Distribution Places?

Let’s get technical. Distribution entails making a product available for purchase by dispersing it through the departments or units. It involves locate the right product to right customers, the level product shelf height, and right location.

Distribution is fundamental to a company’s sales. Distribution strategies depend on the type of product being sold. the trick is knowing what type of distribution you will need to achieve your growth goals.

A managing distribution places focuses on a particular area inside the store which allows them to implant, robust relationships with other departments. Distributors have a straightduty to making sure products are flying off retail shelves.

The right distributor works to improve the company's exposure to the product market and can give an advantage in terms of speed and efficiency.

What are the sales analysis criteria?

Sales Analytics is an exercise to create insights from sales data, trends, and metrics to set goals and predict future sales performance. The best preparation for sales analysis is to link all activities accurately to determine the results of revenue determination and targets for the department store sales.

Analysis should focus on improving and developing a strategy to improve sales performance in the short and long period. A common example of sales analysis activity is to identify role targets in the form of key performance indicator. or metrics like [3]:

1. Sales growth
Sales analysis is about your ability to increase revenue.
2. Target sales
The main performance indicator tracks this performance against the work goal.
3. Opportunities
In an ideal world, you will be able to prioritize sales efforts according to the possibility of closure.
4. Sales so farmake a quick analysis by comparing your current sales to the previous period and the same period last year, and get a historical feel
5. Product performance to sell multiple products and targets for each product, it is important to track sales per line.
6. Lead conversion rate
Views such as lead conversion rates help maintain consistency throughout the customer's journey.

II. Model of Customer's behavior

Eye Movement in Adults
Eye Direction
A number of studies speak of eye orientation during lies. Usually, when people look up and to the right, they lie or exploit their imagination. When they look up and to the left, they remember or remember something, and click on the memory part of the brain. However, be sure to know their natural movements, because it can be reversed for people living in the left hand.
Here are some of the other guidelines observed in people [4]:
Looking Towards Their Rights = Audio Thought (Remember Song)
Look left = visual thought (remember the dress color)
Looking down to the right = A person creates a sense or a sensory memory.
Look down to the left = someone talking to himself.
Looking for straight = someone in a straight direction to first enter a new place

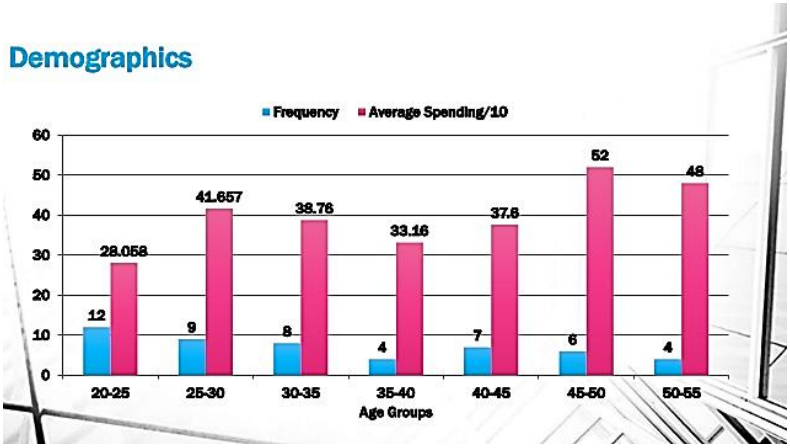
Eye Movement in Elderly
Older people tend to move slowly, pulling their feet behind them, just as if they do not have the energy to move normally. The lack of energy usually reflects sad feelings or depression, but may also be accompanied by fear and uncertainty what awaits a person in the future.

III. Data Mining Models And Evolution

Problem Definition
This early phase of the data mining project focuses on understanding the business objectives and requirements. Once you determine the situation from a business perspective, you can formulate it as a problem to extract the data and set up an initial implementation plan as a problem.
The business problem may be:

- How do I sell more of my product to customers?
- This may translate into a data extraction problem such as:

Who are the customers who are most likely to buy the product? "
The model that predicts the most likely to purchase the product should rely on data describing the customers who have purchased the product in the past.
Before building the model let's have a look to the following Consumer Behavior Study of Carrefour UAE (Dubai).Published on Oct 14, 2014.
We can notice from age group that customers considered 20 to age 55 are ignoredwhich is the most important. We can say age before 20 which can be children and the ages after 55 which can be most significant on the market [5].



At this stage of the study, it is time to assess the extent to which the model meets the purpose of the action already announced. If the model is supposed to predict customers:

- Likely to buy a product,
- Do you differentiate enough between the two categories?
- Is there enough lift? Are the tradeoffs shown in the confusion matrix acceptable?
- Will the template be enhanced by adding text data?
- Should transaction data such as purchases (market basket data) be included?
- Should the costs associated with false positives or false positives be included in the model?

IV. Demographic Issues and Consumer Buying Behavior

See the table [1] that the demographic factors that influenced the customer's behavior in the purchase of eye movements are the internal factors including age (children, adults, the elderly) so that the market is divided based on these factors. These factors are the basic factors to distinguish between client groups where the customer wants, usually include preferences and the use of demographic factors

Eyes Movement	**Top**	**Straight**	**Down**
Children	75%	15%	10%
Adult	8%	86%	6%
Elders	4%	14%	82%

Table 1 Consumer buying behavior

The chart for the data collection can be summarized according to the three categories (children, adults, elders).

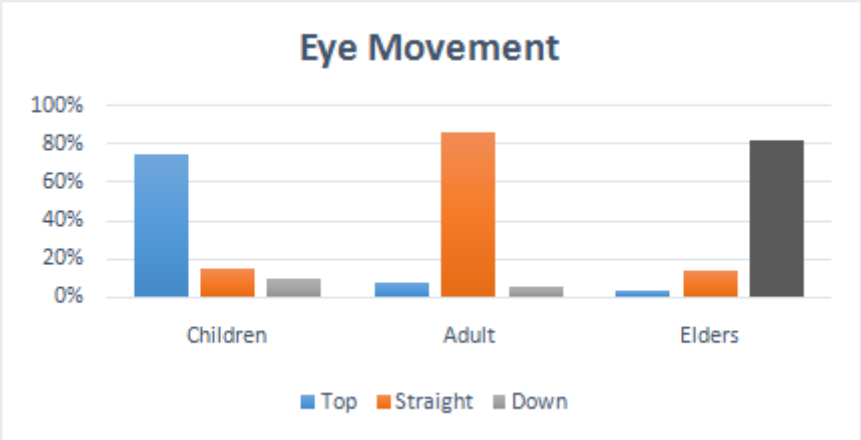


Chart 1 data for all categories for eyes movements

V. Data Mining Model Suggestion

Data mining phasing usually can take six steps (figure 3)

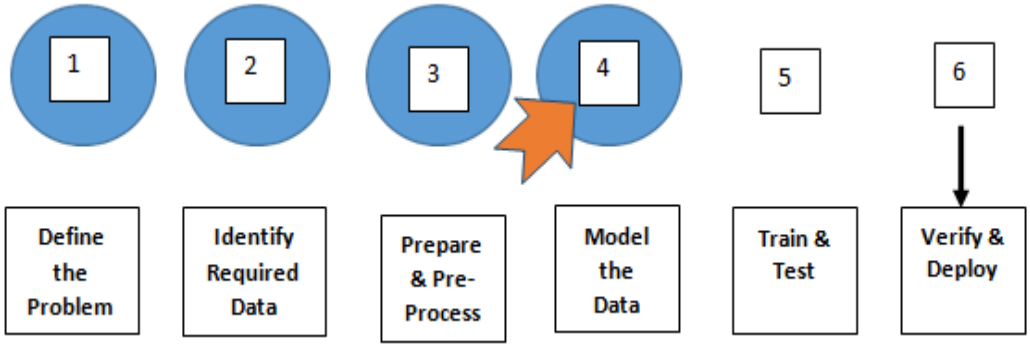


Figure 3: Data Mining Phasing

In our study, we concentrated on standing at the fourth paragraph of the process of data exploration in the re-examination in order to formulate a new model depends onthe three cases mentioned above, the division of work is based on children, adults and older persons. The model suggestion can have built can be look like as figure 4:

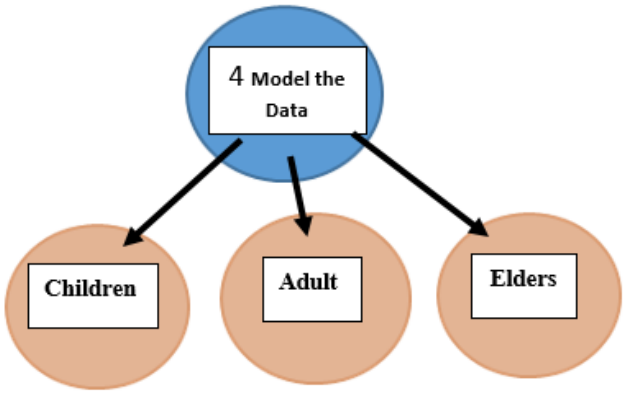


Figure 4:New Model Strategy: Select Algorithms build predictive Model

The actual mining part will start extracting the data in this step. Select the appropriate algorithms for the desired task and parameters. See article Data mining techniques for an idea of algorithms. By this time, you have chosen a tool or tools to enhance your productivity. Using these tools, build the model and evaluate the initial results. Since the ultimate goal of data extraction is to predict, the results may sometimes invalidate previous assumptions if the predictions are outside of a previous hypothesis. The modeling itself may involve multiple steps in describing the data as mentioned in the data mining techniques article.

VI. New Policy adaptive

After reaching an additional model for the stages of strategic construction. Take into account the new model for the construction of a strategic sale according to the ages and places of distribution of materials that are set for sale, for example children can put the special things to work in the top place with the addition of some colors and lights attractive.

Children play a greater role in family consumer decisions and have appeared as independent customers, an ever more powerful region in the market. Children can be considered, first, a main market; secondly, manipulating decision makers in their parents; and thirdly, as adult customers in the future. The second is the main focus of this paper on big stores purchases. This study discovers the power of children on big stores shopping. Contributors involved parents and children of families in Carrefour, Dubai. The results presented that children have a important impact on the purchase of big stores products. Factors influencing product preferences for children are analyzed, and their ability to carry their choices to their parents.

VII. Conclusion

Data mining is mainly used today by businesses with a strong customer focus on eyes moving according the age children, adults and elders, and marketing planning. Data mining has a many of significance, since of its massive applicability. It is being used progressively in business applications for considerate and then forecasting valued data, like customer buying actions and buying tendency, profiles of customers, industry analysis, etc.

Studying consumer behavior when purchasing with data mining as a better visualization tool to visualize users when shopping. This will also help to develop effective marketing strategies, which will lead to market growth that will generate profits and lead to economic growth.

From this study we deduce the importance of data mining and its effect in managing the increase of sales and building a strategy in dealing with data in the detection of faults in the use of the implications of models and models, which lead to a shortage of sales.

The model presented in this study takes an important aspect is the movement of the eye when the customer enters the large stores of different ages compared to the way the buyer's view of the buyer. Although the study proved delayed eye movement positive despite the small size of the sample but possible in future studies support this theory.

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