**Building a Data Analytics Strategic Goal**

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Introduction

As corporations grow larger, it becomes harder to maintain standards within all their stores. One of the standards that most retail corporations implement in their stores is maintaining product quality, where expired products are rotated out and inventory is managed properly.  We will be using Walmart as our example for a business and address the problem of why there are expired products still on the shelves.

Looking at the initial problem of expired products, we start our analysis with asking the question “why are there expired products on the shelves?” and have looked at different reasons as to why this could be possible. From root causes of employees being overwhelmed, or ineffective organization of labor, we concluded that the main root cause of the problem is the employees’ lack of training or lack of a standardized training method.

Below will be our force field diagram, and we go into further detail on each individual forces on the next page.

# Forcefield Diagram

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| Lack of Communication  (7 Points)  Inefficient Division of labour (4 Points)  Disorganization of Product (4 Points)  Mismanaged Inventory  (6 Points)  Lack of Training  (10 Points)  Increase Staff  (8 Points)  Training Programs  (10 Points)  Incentives for Employees  (4 Points)  Markdown Products  (5 Points)  Division of Tasks  (8 Points)  Reduce the amount of expired product that is on retail shelves. |

To effectively reduce the presence of expired products on the shelves of Walmart retail stores, it is imperative to address the positive forces driving this improvement and the negative forces hindering progress. Crucial factors contributing to the problem of expired products at Walmart encompass negative forces such as:

1. Miscommunication Between Shifts/Lack of Communication:
   1. Miscommunication between different shifts or lack of effective communication can result in vital information about expired products not being shared.
   2. This can lead to products being checked multiple times or not checked at all, creating inconsistencies in inventory management.
   3. It can also cause delays in removing expired items, as one shift might assume another has already handled the task.
2. Inefficient Division of Labor, Staffing Shortage:
   1. Inefficiently dividing labor can result in some areas of the store being understaffed, leading to delays in inventory checks and expired product removal.
   2. Staffing shortages can prevent employees from allocating sufficient time to thoroughly inspect products, increasing the likelihood of expired items going unnoticed.
3. Disorganization of Product:
   1. Disorganization of products on shelves can make it difficult for employees to conduct efficient checks for expired items.
   2. Poorly organized displays can obscure product labels and expiration dates, making it more likely for expired products to remain on the shelves.
   3. Customers may also contribute to disorganization when they handle products without returning them to their proper places.
4. Mismanaged Inventory (Ordering Products That Won't Sell):
   1. Ordering products that do not sell well can lead to an overstock of items with limited demand.
   2. Overstocked items are more likely to reach their expiration dates before being sold, contributing to the problem of expired products.
   3. Mismanaged inventory can also result from a lack of data analytics to inform purchasing decisions.
5. Lack of Training Among All Levels (Especially Management):
   1. The lack of training, especially among management, can perpetuate the problem of expired products.
   2. Management plays a crucial role in addressing the importance of checking expiration dates and enforcing proper procedures.
   3. A lack of training at all levels can result in inconsistent practices and accountability.

The positive forces discussed in our forcefield diagram regarding Walmart, or any retail business can create a comprehensive strategy to address the issue of expired products on shelves. These strategies focus on employee engagement and incentives and leverage data analytics to make informed decisions and reduce waste, ultimately benefiting the company's success and customer satisfaction. Addressing these negative forces is essential for improving the management of expired products in a retail business. Strategies to mitigate these challenges include:

* + - 1. Implement Consistent Training Programs for All Employees:
         1. Training should cover the importance of checking expiration dates, identifying expired products, and proper procedures for removing them.
         2. Training programs should be ongoing, ensuring that new hires and existing employees receive regular updates and refresher courses.
         3. The training should also emphasize expired products' potential health and safety risks, enhancing employee awareness.
      2. Incentives for Employee Engagement:
         1. Introducing incentives can motivate employees to actively check for and remove expired products.
         2. Employee recognition programs such as "Employee of the Month" awards, gift cards, or additional points can create healthy competition and a sense of accomplishment.
         3. These incentives encourage employees to be more vigilant and proactive in maintaining the quality of products on the shelves.

1. Markdown Products Before They Expire (Flash Sales):
   1. Implementing a strategy to markdown products as they approach their expiration date can help reduce waste and encourage customers to purchase these items.
   2. Flash sales or special promotions on soon-to-expire products can attract customers, boosting sales and minimizing losses due to expired items.
   3. Monitoring the effectiveness of these promotions through data analytics can optimize pricing and timing for markdowns.
2. Division of Tasks Between Employees/Different Shifts:
   * 1. Efficiently dividing tasks among employees and shifts ensures that all aspects of store management, including checking for expired products, are adequately covered.
     2. Ensure an equal division of employee labor based on the needs of the department (ex., Employees that are responsible for the produce section or freezer items are responsible for checking their department for any expirations)
     3. Create clear schedules and responsibilities, specifying who is responsible for which sections and which shifts are responsible for inventory checks.
     4. Regularly rotate employees between sections to prevent repetition and ensure fresh eyes on products.
3. Increase Staff to Reduce Shortages:
   * 1. Adequate staffing levels are crucial to maintaining a well-organized store and preventing shortages.
     2. Additional staff can help address various tasks simultaneously, such as restocking, inventory checks, and customer assistance.
     3. Data analytics can determine peak hours and days when additional staff are needed to prevent shortages and product expiration.

Furthermore, utilizing data Analytics for Inventory Management is crucial, such as tracking inventory in real-time, including expiration dates, and providing automated alerts when products are close to expiring. Such data-driven insights can optimize the allocation of staff and resources based on historical sales data and expiration patterns. This can also assist in predicting which products are likely to expire soon, allowing for proactive measures. By addressing these negative forces and combining them with the positive forces mentioned earlier, the retail business can create a holistic strategy to reduce and eventually eliminate expired products from its shelves, benefiting both the company and its customers. Addressing these negative forces is essential to creating an effective strategy to minimize expired products in Walmart's retail stores, ultimately improving customer satisfaction and operational efficiency.

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| Goal based on problem statement: | Reduce the amount of expired product that is on retail shelves |
| Total Points for Positive Forces: | 35 |
| Total Points for Negative Forces: | 31 |
| Initial conclusion of force field diagram analysis based on difference between positive and negative forces: | Overall there seems to be more positive points on our forces, meaning that our goals seem to be overall achievable. |

Leveraging Positive Forces:

Our plans to leverage the positive forces include gathering data from the employees on what they consider is going well in terms of working in the store, what is not, what questions they have regarding all aspects of the business, or just within their frame of responsibilities. Understanding the priorities of each department, overall goals for the business, and what is happening to achieve this right now. What concerns have fallen to the wayside, what needs to be improved, what is working well and on track, and what business is doing well and not well. Obtaining a comprehensive understanding of the multifaceted nature of all these factors will help us in establishing the solutions needed to improve the current methods of training and implementation of furthermore productive methods. Along with reducing food waste and creating a more efficient workplace.

Mitigating Negative Forces:

Our plans to mitigate the negative forces start with improving and implementing proper standardized training for all staff and management. This implementation of training will aid in a proper understanding of the expectations and guidelines of the business concerning expiry management. This improved training will lead us to the second force that we aim to mitigate, which will be a reduction in miscommunication or lack of communication between coworkers or shift takeovers. This trickles into the remaining negative forces, such as the disorganization of the product, which we hope decreases with the implementation of proper training measures and better notice of expectations. Once these measures are put into place, it will help improve the unequal division of labour by understanding what is manageable for the staff post-correct training and improve handling and understanding of the mismanaged inventory.

Problem Statement Rewritten with SMART Values:

The goal in relation to our chosen company is to check all expiries in this retail store at least twice a month (once at the beginning and once at the end of the month)—each time, a different section is checked and will be marked down simultaneously. This can be accomplished by either placing markdown coupons on the physical items or scanning and placing each item into a digital event in the company’s system so they can print specific labels indicating clear-out. Markdowns would happen according to company policy and within the expected timeframe of the particular product. For example, baby formula would be marked down from an earlier date of maybe three months. Compared to a chocolate bar which may be from one month since the formula requires more consumption time from the consumer compared to the chocolate bar. As well as having the correct clear-out price automatically scan in at the till when the consumer is checking out.

This goal is quantifiable because we can see the product being pulled from the shelves and what product is being marked down for clear-out. A consistent expiry checking schedule will help to alleviate the mismanaged inventory concerns too. Since management will be able to see which products are consistently being marked down or tossed out more. They can change their minimum on hands value so that less product will be re-ordered therefore leading to less food waste. These are also the associated indicators to measure this. The first is the markdown of the product, the second indicator is the customer buying the said product, and the third is the product being damaged out or returned back to the company if not sold and has expired.

This goal is highly audience-specific, as many companies cannot sell expired products to consumers and would be held liable if they did. Our goal of reducing expiry is also exceptionally relevant to our target audience. If we consider inflation and the rising cost of living, we currently experience, any form of food waste we encounter is exceptionally tragic and highly preventable with the correct steps implemented at the right time.

This is a realistic and achievable goal, especially if we look at retail food waste and its preventability (as long as the appropriate resources are provided), such as standardized training, proper staff volume, communication coordination, etc. In contrast, we understand that in real life, companies frequently cannot provide a whole new training method and resources on the spot. Giving proper training to the key staff members, such as management, will assist in trickling down a proper training method to the rest of the team members and further onto new staff hires. The time frame within which the objective will be achieved depends upon the size of the store and the number of people participating in checking expiries. As the assumption is, everyone in their respectable departments will be trained and will participate accordingly.

Final Thoughts:

The challenge of managing expired products on retail shelves is a common issue faced by many large corporations. This problem often stems from a complex web of factors, but our analysis has identified a primary root cause: the lack of standardized and comprehensive training for employees at all levels. To address this issue, we have outlined a goal to reduce the presence of expired products on shelves by implementing a robust expiry management system, with the aim of removing such products within one week of their expiry date. Positive forces include consistent training and incentives, while negative forces involve miscommunication and inefficiencies. Our plans aim to leverage positive forces and mitigate negatives by improving training and communication. Standardized training and better communication are keys to our strategy. By focusing on these aspects, we can create a more efficient and effective system that not only reduces the presence of expired products but also enhances overall store operations. In doing so, we contribute to the broader goal of maintaining high standards within the retail industry and ensuring customer satisfaction.

# Appendix

5 Whys Peer Interview

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| **Name of your Interviewer** | **Jean Louise** |
| **Your Initial Problem Statement** | **WHY ARE THERE EXPIRED PRODUCTS STILL ON THE SHELVES (OF RETAIL A BUSINESS)** |
| **Question 1** | Why are there expired products on the shelves? |
| **Answer 1** | Employees not checking/removing/marking them down |
| **Question 2** | Why are employees not checking/removing/marking them down? |
| **Answer 2** | Employees are too overwhelmed with other responsibilities |
| **Question 3** | Why are employees overwhelmed? |
| **Answer 3** | Too many responsibilities/ tasks in a given amount of time and miscommunication between shift swaps |
| **Question 4** | Why are responsibilities being miscommunicated? |
| **Answer 4** | Lack/ ineffective of training for the employees. |
| **Question 5** | Why is there ineffective training? |
| **Answer 5** | There is no standardized training program for the organization |
| **Root Cause** | Lack of training and miscommunications between employees |

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| Name of your Interviewer | Neha |
| Your Initial Problem Statement | **WHY ARE THERE EXPIRED PRODUCTS STILL ON THE SHELVES (OF RETAIL A BUSINESS)** |
| Question 1 | Why are there expired products on the shelves? |
| Answer 1 | I believe it is because employees are not dedicating time towards checking expiries and practicing the first in, first out method. |
| Question 2 | Why are employees not checking/removing/marking them down? |
| Answer 2 | It might be because the employees have too many other tasks they need to finish within their shift or there is not enough staff on shift where one can take the time to check these sections. One employee may also be covering multiple departments due to staffing shortages. |
| Question 3 | Why do you think the employees are overwhelmed? Can you provide some reasons? |
| Answer 3 | Because there may be too many tasks, or responsibilities they have to fulfill within their shift period and having staff shortages adds more pressure on them to take on other peoples’ tasks as well. This doesn’t allow for room to take on expiries or other things. |
| Question 4 | What makes you think there are responsibilities being miscommunicated? Or have been in the past? |
| Answer 4 | People maybe forget to pass it on or are so overwhelmed with their day by the end of it that they do not care to pass on the information. |
| Question 5 | Why do you think there is ineffective training? |
| Answer 5 | Training is not standardized beyond online modules, so whenever you are trained in person by someone, if they deem a different method of doing something more appropriate they may teach/train in accordance to that. Then another person comes and trains with a different method leading to differences in understanding and training across the employee board and departments. |
| Root Cause | Lack of training and miscommunications between employees |

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| Name of your Interviewer | Esha |
| Your Initial Problem Statement | **WHY ARE THERE EXPIRED PRODUCTS STILL ON THE SHELVES (OF RETAIL A BUSINESS)** |
| Question 1 | Why do you think you often find expired products on the shelves of walmart? |
| Answer 1 | This is due to the increased amount of products we carry which makes it difficult to catch every expiry date. One way to address this is to improve inventory management and increase employee training. |
| Question 2 | How can Walmart ensure that a customer won't purchase expired products? |
| Answer 2 | We will be investing in utilizing data analytics that will help track expiration dates more accurately and alert employees when products are close to expiring. Also, providing more comprehensive training to staff to ensure they can identify and remove expired products. |
| Question 3 | Does Walmart have plans to improve communication between shifts to prevent expired products from being missed during inventory checks? |
| Answer 3 | Communication between shifts is crucial in tackling this issue. By implementing standardized protocols and communication channels to ensure that information about inventory checks and expired products is consistently shared among teams. |
| Question 4 | What measures are in place to organize products on the shelves better to prevent the sale of expired items? |
| Answer 4 | Practicing the first in first out method every day when putting stock and overstock away and doing more regular expiry checks would be a better way to ensure less expired products stay on the shelves. Currently these are supposed to be enforced and in place however due to overwhelmed staff and exceedingly high expectations of management, following these guidelines tends to be second priority. |
| Question 5 | How is Walmart addressing the issue of overstocked items that may contribute to products expiring before they are sold? |
| Answer 5 | Data analytics can help us make more informed decisions about product ordering and distribution to minimize waste and ensure fresh products for  customers. |
| Root Cause | Improve inventory management and overall customer satisfaction |

# Grading

## Rubric

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| Question | Weight |
| Word |  |
| * Initial Problem Statement | /10 |
| * Completed 5 Why’s Interview Results | /35 |
| * Refined Problem Statement with SMART framework | /20 |
| * Forcefield Diagram and Analysis | /35 |
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| Total | /100 |