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GitHub Portfolio

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Project Title

"Improving Lindt's Online Order Fulfillment Process"

Technologies Used

BPMN 2.0, Power BI, Excel, etc.

Description

This project optimizes Lindt's online order fulfillment using BPM and Power BI to improve efficiency and customer satisfaction. Key issues like manual picking and inventory management were identified, with solutions like automation and predictive analytics proposed. The goal is to streamline operations and enhance service during peak seasons.

Date

4 April 2025

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Executive Summary

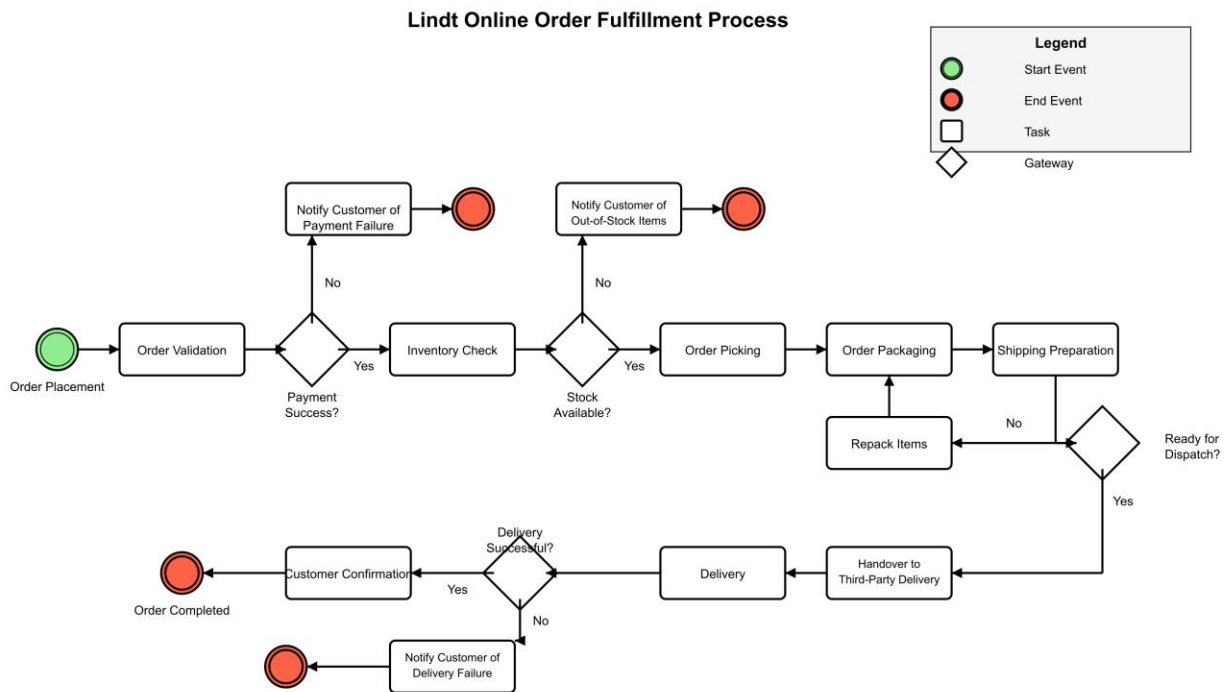
Industry: Chocolate industry

This report is targeted at analyzing **Lindt's** online order process for retail, which is a well-known chocolate manufacturer and retailer. The main intent of this report is to improve the manner in which Lindt handles online orders, especially at times of peak demand such as Christmas and Easter. These seasons typically are accompanied by backlogs in processing orders, stockouts, and late deliveries, thus affecting customer satisfaction and business reputation.

The research utilizes **Business Process Mapping (BPM)** tools and **Power BI dashboards** to obtain a clear picture of the existing "As-Is" process. By mapping step-by-step the order journey — from **customer purchase** to **product delivery** — this report reveals where time is wasted and errors happen. Power BI is employed to represent live sales, delivery status, and order volumes, which supports data-driven decision-making.

Key observations indicate delays are largely happening during the third-party delivery handovers and the warehouse packaging phase. The company proposes **automating** pack warnings, improving coordination at the warehouses, and better demand forecasting to fix this.

All of these alterations will assist Lindt in fulfilling its orders more effectively, de-seasonalize the stress from the system, and give its web shoppers a less bumpy experience.



Introduction

The main aim of this report is to improve Lindt's online shopping order fulfillment process using **Business Process Mapping (BPM)**. The project utilizes a mix of methods — **including process analysis, Power BI dashboards, and BPMN modelling** — to identify where problems are arising and how the process can be improved.

For this report, we are looking at **webstore orders** only, not the plant or production side of the business. This is all after a customer order from Lindt's website until it gets to their doorstep. This encompasses **order confirmation, warehouse pickup, boxing, shipping**, and final **delivery**.

Utilizing Power BI tools enabled us to visualize the existing performance of this process with actual data. The BPMN diagram enables us to model both the existing "As-Is" process and the enhanced "To-Be" one. This systematic method facilitates clear communication, research, and problem-solving, as demanded in the unit learning outcomes.

Background

Lindt & Sprüngli is a premium **chocolate brand** present in the market for more than 175 years. It is famous for its rich and smooth taste, and Lindt chocolates are distributed globally in Europe, North America, Asia, and Australia through its shops. The firm is part of the growing global chocolate industry, which continues to grow due to the rising demand for **quality** confectionery and luxury items.

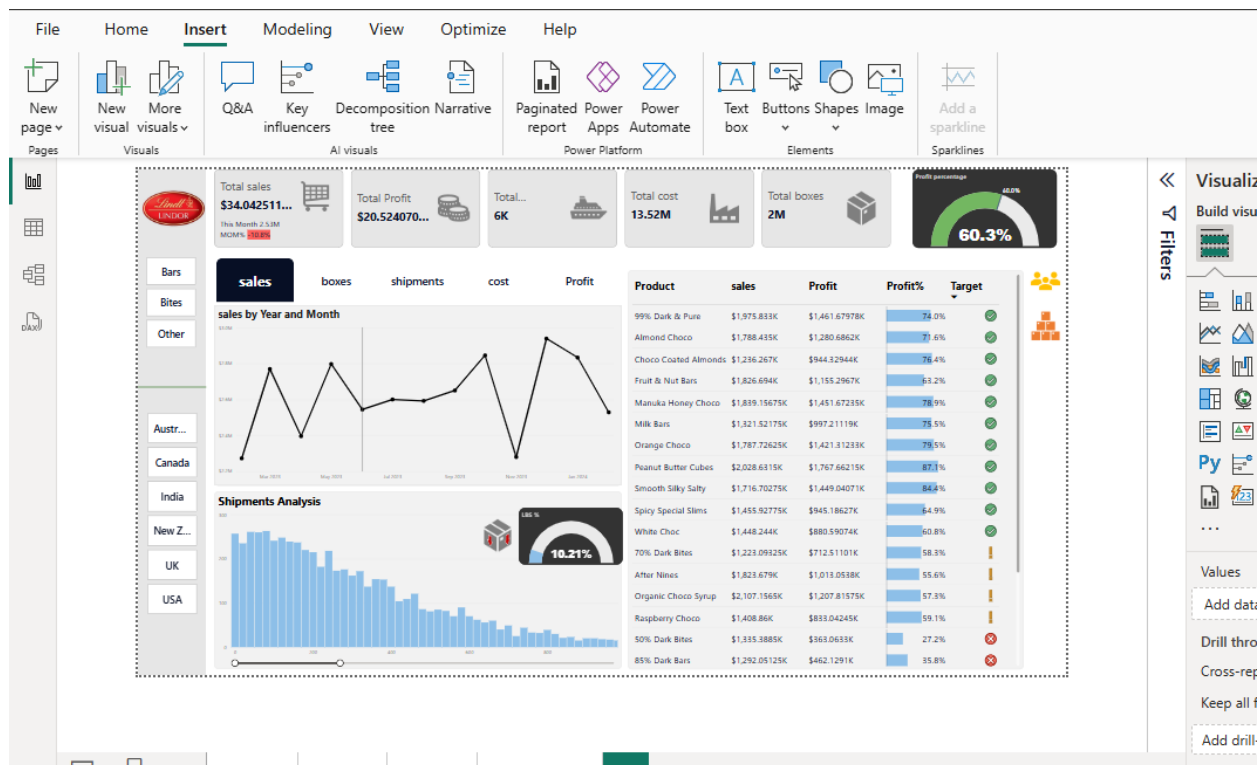
In the last couple of years, Lindt has also been focusing more on **online sales**. Consumers nowadays prefer ordering chocolates via the website, especially on special occasions like Valentine's Day and Christmas. This has increased the number of orders placed online and placed pressure on their **logistics system**.

With a **large network** of **warehouses** and **third-party delivery firms**, Lindt handles **high order** volumes on a daily basis. However, handling high order volumes effectively must be supported with effective processes. It is for this reason that I opted to revisit and improve the **online retail order fulfillment process**, which is a critical area to improve **customer satisfaction** and business **performance**.

Methodology

In order to better comprehend and streamline Lindt's online ordering process, I utilized **Business Process Mapping** (BPM) tools such as **BPMN 2.0** and Swimlane diagrams. The tools helped me map the process into easily understandable steps **visually** and identify each department's responsibilities such as **customer service**, warehouse staff, and delivery partners. The diagrams made it easier for me to spot where problems like **delays** or redundant tasks were cropping up.

I used **Power BI**, too, for analyzing actual order data. Working with Power BI allowed me to drill down through trends like **shipping time**, missed shipping, sales during peak periods, and complaint calls. Using the overlap between **visual data** and BPM diagrams helped me identify specific phases where the process **lags** or breaks.



I chose these tools because they are **very useful in retail operations**, where many teams and systems must work together. Using BPM gave me a structured and clear understanding of the current state, while Power BI provided evidence-based insights. Together, they helped me build a full picture of the "As-Is" process and identify the most important areas for improvement.

Results (As-Is Analysis)

The current retail order fulfillment process within Lindt begins with a customer making an order **online**. The order is automatically routed to the **warehouse**, and there, **picking** is initiated. The products are picked by the warehouse staff in line with the information in the order, **packed**, and routed to the **shipping department** for shipping.

However, there are several problems that influence the **efficiency** of this process. When demand is **high**, such as during Christmas, the picking process slows down. This is mainly due to **manual** order handling and a shortage of **automation** in sorting and packaging. This slowing down increases order fulfillment time, which leads to **customer dissatisfaction**.

Stockouts are even a common occurrence. Power BI analysis revealed that there were repeating stockouts during busy times, and the stock levels did not correspond with the forecasted demand. These stockouts have a tendency to result in **late shipments**, which further infuriate customers. Power BI visuals also revealed that order delays occur at multiple points, particularly when inventory was **low**, and **order priority** wasn't established.

Overall, the order fulfillment process functions but is affected by outdated **technology**, **manual handling**, and poor **inventory management**. The evidence unequivocally suggests that the system is not optimally configured to handle large volumes of orders at peak periods, leading to inefficiencies and **delays**.

Key Findings

The review found several **inefficiencies** in Lindt's current process of fulfilling orders. To start with, the data reported that **manual picking** was time-consuming, particularly during peak seasons like Christmas. Power BI visuals confirmed orders were taking much longer due to **manual processing** and lack of **automated processes**. Such a delay is one of the key reasons for **customer complaints** and dissatisfaction.

Another important area that was determined was **inventory control**. The Power BI analysis highlighted that **stockouts** were extremely frequent during peak-demand periods, such as holidays. Low **forecasting** and outdated **Warehouse Management Systems (WMS)** were the reasons behind these stockouts. Without up-to-date information regarding stock quantities, the system was unable to accurately predict shortages, resulting in delays.

Furthermore, the lack of **automation** in the picking and packing phases also created inefficiencies. **Manual errors** resulting from manual procedures further led to order processing delays. Such inefficiencies can be prevented by **technological upgrades**, for instance, by adding a more advanced **WMS** and automating order fulfillment procedures.

In short, the root causes of inefficiencies and tardiness are inefficient **forecasting** of inventory, **manual operations**, and outdated **systems**. These need to be tackled so that the order fulfillment process and **satisfaction of customers** can be improved.

Recommendations

To address the inefficiencies identified in Lindt's order fulfillment process, I propose the following practical changes:

1. **Automation of Inventory Management:** Implement an automated Warehouse Management System (WMS) that provides real-time information on stocks. The system must be able to track inventory more effectively, thereby reducing stockouts and order fulfillment times during peak seasons.

2. **Predictive Analytics (Power BI):** Use Power BI to apply predictive analytics to sales data. This can be utilized to better forecast demand, allowing the company to prepare for high-volume periods. Through the analysis of past data, Lindt can better forecast inventory needs and adjust stock levels accordingly.
3. **Integration with Suppliers:** To ensure levels of inventory are in line with demand, I recommend integrating WMS with suppliers' systems. This will allow Lindt to receive timely notifications for stock levels, which will aid in the coordination of Lindt with its suppliers, especially during peak season.
4. **Staff Training:** Proper training of staff on the new processes and systems is important. This will enable easier acceptance of automation and predictive tools and reduce human errors and overall operational efficiency.

By accepting such changes, Lindt can significantly improve its order fulfillment process, reduce delays, and increase customer satisfaction.

Conclusion

The **Business Process Mapping (BPM)** and **Power BI** analysis of Lindt's order fulfillment process revealed a range of major **inefficiencies**, including **lengthy manual picking**, poor **inventory management**, and zero **automation**. The **Power BI** data insights pinpointed the biggest gaps and areas for improvement.

By implementing the proposed changes—such as automating **inventory management**, predictive **demand forecasting analysis**, better **integration with suppliers**, and comprehensive **staff training**—Lindt can optimize its processes. All these alterations will lead to a smoother process of **order fulfillment**, less delay, and finally attaining the goal of enhancing the **efficiency of operations**. With the changes, Lindt can deal with **peak demands** better and deliver a quicker, smoother service to customers.

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