

Improving Operational Efficiency in Shops in a Food Retail Chain

Pedro Miguel Vieira de Carvalho

Industrial Engineering and Management

Instituto Superior Técnico, Universidade de Lisboa, Portugal

October 2023

Abstract

The retail industry is currently undergoing a profound transformation, driven by shifting consumer preferences and the rise of e-commerce. To thrive in this evolving environment, Company Alfa resorted to the Kaizen Institute to develop disruptive solutions that enhance operational efficiency by standardizing processes and optimizing resource management based on real data and, in similar, create a culture of continuous improvement.

This dissertation analyses a case study of operational procedures in retail stores aimed to increase its efficiency and upgrade customer experience. Preliminary studies were conducted by analysing customer journey, activities during waiting time, and waiting and service times. Data was recovered of the customer flow of the different sections, and the development of tasks during the different periods of the day. By these tasks were improved and standardized, and standards for customer service and a sales forecast plan were implemented. The concept of work unit was developed to allow precise and realistic resource scaling, complemented by a capacity and workload management tool for operational procedures.

The developed framework serves as a strategic methodology for developing accuracy resource escalation and increase operational efficiency for the Company Alfa evolution. Disruptive solutions were defined to implement improvements on stores of the company, divided on a seven-step implementation process.

Keywords: Operational Efficiency, Resource Management, Lean, Continuous Improvement, Retail.

1. Introduction

Businesses in the highly competitive retail sector struggle to adapt to the changing needs of their customers and market trends [1]. Retail has seen revolutionary changes in the last few years, spurred by e-commerce, changing customer habits, and an increasing focus on individualized, convenient, and effective shopping experiences. These changes raise

consumer expectations, which now call for interesting and unique shopping experiences in addition to high-quality products.

Emerging technologies, shifting consumer preferences, and cyclical economic conditions define the evolution of retail. In light of the difficulties Company Alfa is facing in the retail industry, this section examines the ramifications

and importance of the suggested remedies. It also emphasizes how these solutions are ideally positioned to tackle the more general trends and issues influencing how retail operations will develop in the future.

A thorough examination of these difficulties is conducted, with an emphasis on the tactics used by well-known retail company Company Alfa to manage these crucial problems, on the specificity of the four sections analysed. The methodology created provides a comprehensive understanding of how to adjust and improve operational procedures in the face of changing conditions, from identifying operational difficulties to creating integrated solutions and putting them into practice.

The main goal of this study is to build an intricate model that accurately estimates the resources needed for each component. Concurrently, it seeks to enhance current operational procedures, fostering an environment of ongoing enhancement. This dual emphasis answers two important questions: How can operational efficiency in stores be maximized? And how can we improve consumer experiences at the same time?

Company Alfa and other organizations need to be agile and adaptable due to the retail sector's continuous evolution. Establishing a continuous improvement culture prepares the company to prosper in the face of these dynamic changes. If fully adopted, the study's recommendations will not only improve Company Alfa's operations now but also give it a strong platform on which to meet future obstacles.

2. Literature Review

2.1. Principles of Kaizen: Framework for Continuous Improvement

Kaizen, a foundational concept in management and operations, encapsulates critical principles that guide organizations toward continuous improvement[2]. These principles are rooted in a holistic approach to productivity, resource optimization, and customer satisfaction. Beliefs in continuous improvement encourage the need to pursue incremental enhancements in all aspects of operations, promoting a culture of ongoing learning, growth, and innovation, resulting in increased operational efficiency [3].

Kaizen revolves around the fundamental concept of embracing change [4]. Change is not viewed as an occasional disruption but as a constant and valuable process for refinement through daily difficulties, capable to adapt to evolving circumstances. A central principle of Kaizen philosophy is the rigorous identification and elimination of waste, described by Japanese influence as *muda* [5]. This concept highlights the need to scrutinize processes for any non-value-adding activities, resources, or time. By eliminating *muda*, it is possible to increase efficiency and minimize resource consumption. Additionally, creating value for the customer is at the core of Kaizen. It urges organizations to align their efforts with customer preferences and needs in order to deliver a superior customer experience.

Involving all levels is crucial to the Kaizen philosophy. It recognizes that frontline workers possess valuable insights and ideas for improvement, while top management is aligned with the ideas that came from Gemba.

Likewise, standardization plays a pivotal role in Kaizen. It involves the creation of consistent, well-defined processes that serve as benchmarks for delivering the procedure in question with better quality. By setting standards, organizations ensure

that work is performed consistently and efficiently. At last, data-driven decision-making is another guiding principle. It encourages organizations to rely on data and evidence rather than intuitionistic information. This approach ensures that decisions are well informed and respects the prospects of reality, leading more easily to meaningful improvements.

These principles are the foundation of a successful Kaizen approach in various operational settings, including the dynamic realm of retail.

2.2. Lean Methodologies

Four essential methodologies are explored in the context of operational efficiency and continuous improvement.

One essential Lean methodology for visualizing, analyzing, and optimizing the flow of materials and information through a process is value stream mapping (VSM) [6]. It finds inefficiencies, lags, and possibilities for development by visualizing the desired future state and the actual situation [7]. It provides the framework for *muda* reduction and process optimization [8], [9].

Standard Work describes the accepted guidelines and best practices for a certain job or operation. It establishes the most effective method for finishing a task while maintaining a constant level of quality and balancing the resources at hand. Employees may do jobs precisely and efficiently by using Standard Work as a reference point, which reduces variation and *muda* [10]. These procedures are meant to be waste-free, reliable, and efficient. Establishing process stability, lowering variability, and guaranteeing that all employees adhere to best practices are all made possible by standard work [11].

A popular Lean technique for promoting continuous improvement and upholding strict efficiency and quality requirements is the 5S methodology. The 5S technique is essential in the context of Standard Work. The acronym 5S stands for *Sort, Set in order, Shine, Standardize, and Sustain*. It is a methodical strategy to increase efficiency and organization at work, leading to higher output.

Kaizen Daily Management means implementing tiny, gradual improvements every day. It gives workers the ability to quickly recognize and address issues in their workplace. This method ensures that advances are maintained over time by pushing staff members to confront problems right away, which promotes a culture of continuous improvement [12].

The Deming Cycle, sometimes referred to as PDCA, is an iterative approach to problem-solving. It entails developing a change (Plan), putting it into practice (Do), assessing the outcome (Check), and acting appropriately (Act) to standardize or improve the procedure. A methodical strategy for ongoing improvement and situational adaptation is offered by PDCA [13].

Enhancing operational efficiency and fostering a continuous improvement culture within organizational processes is made possible by incorporating these Lean methodologies: Value Stream mapping for process visualization and characterization, Standard Work for consistency and quality, Kaizen Daily Management for continuous daily improvements, and PDCA for structured problem-solving.

2.3. Benchmark Kaizen in Retail

The retail industry experienced significant outcomes from the implementation of Kaizen

methodology. These techniques, which were in line with four important solution concepts, attempted to increase operational effectiveness and customer pleasure.

In a case study where Kaizen techniques were utilized [14], the team's total productivity increased by 25% as a result of the kaizen implementation. By cutting down on pointless product handling, simplifying replenishment procedures, and designing effective in-store replenishment routes, it enhanced in-store operations. This significantly reduced stock issues by 21% and damaged products by 12%, resulting in a significant improvement in resource use.

A 7% rise was observed in customer satisfaction. Enhancements in product availability, customer service quality, and store layout led to happier customers, which in turn improved customer loyalty.

In the months that followed the implementation of Kaizen, the retail company had a boost in sales of about 15% and a rise in market share of 2.2%. These findings highlight how crucial Kaizen's approaches are to supporting company sustainability the retail industry.

In conclusion, it is clear from the effective implementation of Kaizen techniques in the retail setting that these strategies have the power to completely transform retail operations. They provide observable advantages including higher output, happier customers, and significant sales and market expansion.

3. Methodology

It was crucial to start an in-depth analysis of Company Alfa and the consulting firm, Kaizen

Institute, in order to set the backdrop for our work. The genesis of this dissertation was laid by these preliminary measures. Then, a thorough assessment of the literature was carried out to provide support for the approaches that will be used. This included an analysis of the market and the current trends that Company Alfa operates in, as well as Lean tactics that centre on standardizing work processes to create operational flow.

Using a well-organized information base about the project's operational environment, it is methodically carried out by analyzing the company's current state, paying special attention to problems involving the customer experience.

This started a root cause investigation that focused mostly on how customer service was carried out and the operating procedures inside the businesses.

After the current situation was evaluated, several inefficiencies in Company Alfa's organizational structure were found. As a result, solutions were created at different degrees of proficiency, and their effects on the two main project pillars were carefully assessed. In order to aid in the execution of these solutions, supportive tools were carefully designed. These methods, which used models for load capacity management and job planning, were crucial in methodically and quantitatively aligning and scaling resources.

In addition, the project actively promoted a continuous improvement culture within Company Alfa to guarantee the long-term viability of the applied methodologies and to offer continuous, uniform supervision over the daily work performed by the various teams that work in all the company's stores.

Every initiative that was created was put through a dissemination model, which allowed for its use in all of Company Alfa's many realities, both nationally and internationally, as well as for other companies.

4. Current State Analysis

Research spanning various crucial areas of Company Alfa's activities throughout the analysis of the current status. First, the paths taken by the customers were charted, noting requirements and touchpoints along the way. Opportunities to improve customer satisfaction and match operations to their expectations were found in this investigation. The customer journey allows to identify the activity of waiting, which was identified throughout every section [15].

Section D was identified as the section with the biggest weekly duration tasks and the greatest number of tasks, preceding a more complex process.

The average waiting and service times were also measured; it was possible to conclude that Section B is the one with the highest average waiting time on a weekly basis. Comparing with Section B, it also shows that just one in five clients makes other purchases in other sections of the store, while in Section C, more than three in five clients do this action.

It also analyzed the distribution of services provided throughout the day in each section, describing the biggest attendance per hour and providing some insights into the client flow within the section. In parallel, it was also reviewed the requirements of FTE in each of the three periods in the store: before opening, functioning, and with the store opening,

realizing that the resources are not uniform throughout the day and neither were planned for answering the biggest demand periods.

5. Results

5.1. Processes Standardization

The core concept for Kaizen productivity lies in standardized task execution. This entails the development of well-defined, simplified, and normalized processes. The company conducted a thorough analysis of operational processes, breaking down each task into its constituent steps. It systematically assessed the necessity, efficiency, and effectiveness of these processes, leading to the elimination of *muda* and inefficient steps. Therefore, tasks were categorized into three different stages:

- i. Non-value-added tasks: Aim to minimize or eliminate tasks with little or no value, such as excessive cleaning, unnecessary movements, manual record-keeping, and packaging items with short validity;
- ii. Tasks critical for improvement: Focus on enhancing the work environment by improving equipment and layouts, increasing the value-added aspect of these tasks;
- iii. Tasks for standardization: These tasks have reached their peak value-added potential, and the focus is on standardizing the most efficient execution method.

These changes lead to the creation of a manual of work standards outlining the optimal sequences and methods for each task. The objective is to

standardize operations across all stores, organized by sections and structured into three phases: before opening, during operation, and after closing. These improvements target enhanced operational efficiency, ensuring consistent quality delivery, and ultimately improving the customer service experience.

5.2. Sales Forecasting Plan

The sales forecasting plan helps sections make accurate predictions about sales, enabling better inventory management and staff allocation. By having the right products in stock and the appropriate number of staff on hand, the company can offer customers a more efficient and satisfying shopping experience, even providing a wider sample of products.

The implementation of these solutions yielded promising results. Staffing became more efficient, leading to substantial cost savings, with the potential for a considerable positive impact on the company's finances. Enhanced customer service in Section B has the dual benefit of improving customer satisfaction and potentially boosting revenue. The sales forecasting plan contributes to better inventory management and increased sales.

5.3. Specialized Post Flows

With the current state analysis, it was realized that shorter client wait times were necessary. To achieve this, a rigorous customer service protocol was developed, improving the speed and efficiency of service. This standardized procedure not only enhances customer satisfaction but also encourages larger basket sizes. By ensuring consistent, streamlined interactions between customers and employees, this standardized

approach contributes to a more attentive shopping experience.

Teams can refine and optimize work within specific areas with the use of specialized post flows. These flows facilitate a more focused approach to process improvements, allowing teams to concentrate on specific workflows segments and produce better outcomes. Kaizen acknowledges the value of certain post flows in improving accuracy and productivity.

5.4. Resource Allocation and Dimensioning

The work unit concept was established as an innovative way to resource allocation. Allows for extremely accurate resource scaling that adapts to the particulars of each store section by taking into account the weight of the products handled by the operators in each sector. The *task needs* concept introduction provides a more detailed way to quantify customer service requirements and task allocations by further classifying tasks into four categories. With the use of real-time data to determine FTE (full-time equivalent) requirements and provide comprehensive weekly schedules for every shop department, the tool *Gestor* transforms resource management.

This tool empowers store managers to effectively balance customer service and operational tasks. It also facilitates responsive, real-time adjustments to resource allocation, significantly improving the precision and efficiency of resource management, by operationalizing the needs generated by the accurate dimensioning. Additionally, to ensure daily task planning aligns with real-time operational requirements, the *Gestor* incorporates real-time data feeds. It assigns tasks based on current store conditions and customer service needs, creating

daily work plans for employees, and optimizing task distribution throughout the day.

5.5. Multi Stages Diffusion Model

To standardize and deploy solutions across all stores, a multi-stage diffusion model has been designed for this project. It involves a number of organizations with different roles in order to create a culture of ongoing improvement. This model consists of five main parts:

- i. Resource Allocation: This step initiates the process by outlining the store's resource distribution, specifically the FTE for every section inside the business. It provides the framework for the latter stages;
- ii. Leveraging *Gestor* for Operationalization: Through the use of *Gestor* tool, the second part operationalizes the FTE requirements. For effective retail operations, this application helps create daily work plans and timetables by interpreting data. It serves as a link between efficient resource allocation and standardized tasks requirements;
- iii. Training and Implementation: Standardized tasks and dimensioning techniques are covered in the standards guides that store staff receive training on. They get ready to work inside the new framework as a result. In order to enhance operations, leaders receive training on how to utilize *Gestor* tool, analyze data, and implement Daily Kaizen practices.

The *Gestor*, specialized post flows, sales forecast planning, and work standardization are just a few of the project components that the diffusion model seeks to synchronize. By progressing through these

stages, it creates a cohesive framework for continuous improvement in the retail sector.

5.6 Benefits Estimation

5.6.1 Operational Efficiency and Resource Optimization

By transitioning to the use of the *Gestor* tool, which leverages data driven insights to determine staffing needs more accurately, Company Alfa has realized significant reductions in FTE requirements across various sections of its stores. The average reduction of 3,67 FTE per store is a testament to the enhanced resource allocation achieved through this model. The categorization of tasks and standardization of processes has streamlined daily operations, enhancing task management. Tasks are now simplified, normalized, and consistent across all stores, leading to a more efficient allocation of resources and a decrease in task completion times.

5.6.2 Improved Customer Experience

The introduction of standardized customer service processes in section B has led to an 18% reduction in customer waiting times. This improvement enhances the shopping experience, making it more convenient and customer friendly. The implementation of a sales forecasting plan has resulted in a 30% reduction in the levels of breakage items, improving both customer satisfaction and cost savings. The table 1 below summarises the expected benefits of its implementation for 100 stores of Company Alfa.

Table 1: Estimative of Annual Benefits

Solution	Annual Benefits (€)
Forecast plan	255.500 €
Resource Allocation	1.800.000 €
Leveraging <i>Gestor</i> for Operationalization	6.165.600 €
Costs	- 850.000€
Total	7.371.100 €

6. Conclusion

This dissertation represents more than just an effort to improve retail operations at Company Alfa, it also represents a steadfast dedication to quality and a willingness to adopt novel strategies that meet the needs of contemporary customers. It provides a template for others in the retail industry, not just a solution to the problems encountered. It shows how companies may strategically use data-driven solutions, process optimization, and the development of a continuous improvement culture to prosper in a fast-paced, cutthroat market.

The retail industry is always changing, therefore being able to adapt quickly and effectively is essential. The study's recommendations not only act as a spur for better operations, but they also provide Company Alfa with a strong base on which to meet future obstacles. The organization's dedication to the idea of continual improvement guarantees that it will always be inventive, flexible, and nimble.

Company Alfa is well-positioned to meet the demands of customers at a time when the distinction between online and offline purchasing is becoming more and more hazy and where they expect not just items but also unmatched experiences. Data, innovation, and a strong dedication to customer satisfaction come together to make sure the company is prepared to set new benchmarks for excellence. Following Company Alfa's example and using these approaches will ensure that businesses are best equipped to seize

new possibilities and take on issues head-on as the retail industry continues to transform.

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