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APPLICATION OF LEAN CONCEPT: THE CASE OF RETAIL COMPANY

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Abstract. Retailing comprises an important portion of the economy both in Lithuania and EU in general, since it contributes significantly to the gross domestic product and labour creation. Globalisation and changing market demands are increasing competitiveness in retail, and as a result companies are adopting different improvement methods and techniques to assure their ability to compete in the market. Lean thinking is one of the wide-ranging ways to promote efficiency, while emphasizing a high level of awareness on customer. The paper aims to reveal the possibilities and barriers of Lean application in retail. In order to achieve this aim, the authors of the paper present the theoretical conceptual model which illustrates Lean implementation in retail. The research design applies a multi-method approach, combining systematic and comparative scientific literature analysis, and a semi-structured interview. The results of empirical research revealed that retail company implements Lean concept aiming to reduce waste, to improve on-shelf availability, to optimize inventory management and space utilization, to increase customer service and satisfaction, and therefore to increase sales margins and profitability. The most successful Lean tools are 5S, Value stream map, Visual management, and Kanban. The primary barriers, impeding or slowing down Lean transformations most often are related to people: insufficient knowledge and engagement; the old ways of working and resistance to change; lack of effective leadership; inadequate communication. Therefore, training of employees, explanation of Lean benefits, creating an enabling culture, and motivating staff to provide suggestions for improvement could be the first steps to successful Lean implementation.

Keywords: Lean concept, retail, Lean tools, barriers.

Introduction

Currently, in a world characterized by globalization, highly competitive markets, and unforeseen crises, businesses encounter a multitude of complex influencing factors that force companies to analyze their processes and operations and adopt new strategies that encourage creativity, innovation and efficiency (Zelga, 2017; Dillinger et al., 2021; Farida & Setiawan, 2022; Benkarim & Imbeau, 2021; Metha & Dave, 2020; Amine & Hadri, 2021).

The aforementioned challenges become more and more important in retail, powerful economic, technological and even societal force source of change. Retail plays a crucial role in country's economy due to several reasons. First of all, it is a significant source of employment offering jobs at various skill levels - from sales associates to managers. Retail also contributes significantly to the gross domestic product (GDP), encourages entrepreneurship, allowing individuals to start small businesses, is interlinked with other industries such as manufacturing, agriculture, transportation, and drives demand throughout the supply chain (Bedoya et al., 2021; Dagilienė et al., 2022). In addition, retail businesses generate substantial tax revenues for governments, contributing to public services and infrastructure development. The development

of retail promotes the production sector, lowers prices for consumers, increases the variety of services and products, and fulfils the changing needs of customers.

Considering its impact on the economy, many researchers have focused on various topics related to retail management. As demonstrated by many years of experience and examples of good practice, Lean is not limited to a specific type or size of business, but is acceptable by various types, sizes and industries that strive to improve their operations, increase competitive advantage, and enhance profits (Gebeyehu et al., 2022, Vienažindienė & Čiarnienė, 2023). Retailers also try to optimize their processes with the eventual goal of achieving "leanness" and increasing the quality of their services (Madhani, 2020). The capability to overcome trade-offs among costs, quality and time has become a must in high-margin businesses. Lean thinking here may be a solution. Despite the transition of Lean philosophy to service industries, including retail, relatively few publications have been published on the application of Lean concept to retail (Marques et al., 2022). In order to enhance the effectiveness and productivity of their in-store, online and/or supply chain operations, some retailers are adopting Lean principles, methods and tools to improve performance and customer satisfaction (Marques et al., 2022). World famous retailers as Wal-Mart, Tesco, Mercadona have become famous examples of lean retailing when adopting Lean principles in this sector.

Research works conducted by Daine et al. (2011), Carmignani and Zammori (2015), Jaca et al. (2012), Domingo (2013), Onetto (2014), Noda (2015), Evans and Lindsay (2015), Robinson (2015), Minh and Anh (2015), Carmignani (2016), Özkavukcu and Durmuşoğlu (2016), Myerson (2017), Kroes et al. (2018), Morcillo-Bellido and Duran (2018), Chuang et al. (2019), Madhani (2020), Abdelhadi (2021), Bedoya et al. (2021), Silva et al. (2021), Marques et al. (2022) illustrate various improvement initiatives in the retail sector applying Lean principles, methods and tools. By developing closer supplier relationships, improving distribution processes under a "pull" vision, retailers have been able to increase their levels of service to consumers, reduce inventory and operational costs, enhance productivity and product quality, and reach good outcomes in terms of employee attitudes, and participation.

While the scientific community has extensively explored different topics related to Lean management and retail management, there is a gap in scientific studies examining Lean application within retail sector.

Research object: the application of Lean concept in retail companies.

The purpose of the research: to reveal the possibilities and barriers associated with Lean implementation in retail settings.

Research objectives: To develop theoretical conceptual model for Lean implementation in retail; Empirically investigate the possibilities and barriers associated with Lean implementation in the retail company.

Research methods: systematic and comparative analysis of scientific literature, semi-structured interview, data systematization and summarization.

The paper is organized around four sections: theoretical background, research methods, research results, and finally, the main conclusions of the paper are summarized.

Theoretical background

The origins of Lean can be found on the shop floors of Japanese manufacturers, in particular at the Toyota Motor Corporation (Marques et al., 2022). Lean philosophy is based on defining value from the customer's viewpoint, and continually improving the way in which value is delivered, by eliminating every use of resources that is wasteful, or that does not contribute to the value goal (Čiarnienė & Vienažindienė, 2015; Leksic et al., 2020, Marques et

al., 2022; Skhmot, 2017). Lean thinking increased in popularity in the end of the 1980s and since then has disseminated to different countries and industries across the globe (Čiarnienė &Vienažindienė, 2015; Lima et al, 2023; Marques et al., 2022). Lean concept has a multifaceted nature, manifesting at different levels of abstraction. At the strategic level, it presents itself as a philosophy or a mindset; at the tactical level, it encompasses a collection of principles; and at an operational level, it materializes through an extensive array of practices and tools, that are adoptable across diverse organizations to eliminate anything that does not create value (Čiarnienė &Vienažindienė, 2015; Leksic et al., 2020, Marques et al., 2022). Lean tools are used to deliver products and services better, to improve quality, increase productivity, speed and reliability, while reducing inventories and costs (Madhani, 2020; Silva et al., 2021).

Currently, retail is crucial in the context of gross domestic product and labor creation, and its role in the economy is growing. Retail success can be defined as achieving high gross margins and customer service levels in the context of stock availability at stores (Domingo, 2013). Managers in retail every day have to make a whole series of decisions that affect retail store performance. The most important of them are presented in table 1.

Table 1. The main retail store operations decisions
Source: elaborated by the authors based on Mou et al., 2018

Decision area	Explanation
Demand forecasting	Integral to retail store operations, stands as a crucial component in managing inventory and labour effectively. Customer demand is shaped by a multitude of factors such as promotions, seasonal fluctuations, holidays, and evolving customer preferences.
In-store logistics: backroom storage and shelf replenishment	Products sourced either from internal distribution centres or external suppliers are transported to the store's backroom. Shelf replenishment involves the actions carried out by store employees to transfer these items from the backroom onto the retail shelves.
Inventory management	Ensuring product availability is critical in the retail sector. Nevertheless, Out-of-Stock (OOS) occurrences are frequently documented issues. These instances of unavailability lead to lost sales, discrepancies in inventory records, challenges in determining optimal pricing, and significant implications for inventory planning - all of which significantly influence store sales and profitability.
Assortment and display	Providing an adequate range of products within the constraints of limited shelf space stands as a key concern for attracting and retaining customers. Effectively utilizing this confined shelf space holds significance due to its impact on marketing effectiveness and operational workload.
Product promotion	There exists a multitude of strategies for this, encompassing price discounts, coupons, complimentary items, gifts, and other promotional tactics.
Checkout operations	The checkout process is an indispensable aspect of the customer's shopping journey, where speed and friendliness are pivotal contributors to the overall shopping experience. Self-checkout systems have increasingly become a standard feature in numerous shopping centres, marking an evolution in the payment process.
Employee management	Frontline employees play an important role in driving store sales. Aligning store associates with both customers' demands and store requirements stands as a critical factor in enhancing retail store performance. It's worth noting that after the cost of ordered products, payroll typically represents the second-largest expenditure for businesses.

In an ideal world, retailers aim to anticipate customer preferences accurately, providing precisely what they seek with lead times ranging from one to two weeks. This vision encompasses a seamlessly integrated supply chain, relying on warehouses primarily functioning as cross-docking centers (Cooper, 2017). In real globalized world marked by fiercely competitive markets, unforeseen crises, the proliferation of Internet and mobile technologies,

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as well as evolving customer needs and preferences, the retail sector is transitioning from a product-focused approach to a customer-centric model and facing a variety of challenges, and complexities. According to Domingo (2013), Cooper (2017), Mou at al. (2018), Madhani (2020), Bedoya et al. (2021), Marques et al. (2022), major challenges faced by retailers are:

- Huge competition;
- Customers switching to competitors;
- Considerable losses in value chains;
- Inadequate stores replenishment processes;
- Poor on-shelf availability (OSA);
- Out-of-stock (OOS) products,
- High inventories, overstocks and returns,
- Large number of independently operated retail stores;
- Tight labor budget;
- Lack of data or inaccurate data;
- Unnecessary complex logistics;
- Long lead-times;
- Lack of sufficient storage space;
- Stock in wrong place or wrong time;
- Pushing not pulling stock;
- Defects in products and machinery;
- Non-availability of service staff for customer contact;
- High employee turnover;
- Constantly evolving consumer demographics and needs, and others.

These challenges and complexities lead to poor business performance, increased operating costs, customer dissatisfaction, uncompetitive market positioning, and lost market share (Domingo, 2013; Mou at al., 2018; Marques et al., 2022). In order to ensure on-shelf availability, enhance the effectiveness and productivity of their in-store and supply chain operations, retailers are looking for new methods and tools to improve performance and customer satisfaction (Marques et al., 2022). For these reasons, Lean principles and tools are being introduced to retail business. Attempts to apply Lean concept in retail are quite recent - it dates from 90s of the last century (Lukic, 2012; Marques et al., 2022). In relation to this, the term "Lean retailing" emerged in recent years. This term has initially become associated with Wal-Mart's early adoption of management practices and information technology systems to strengthen the relationship with its suppliers (Bloom & Hinrichs, 2017).

Myerson (2014) defines the shift towards Lean retail as a dramatic change in the way products are ordered and distributed that is far more data-centric and focused on understanding and meeting customer demand. Chuang et al. (2019) links Lean retailing philosophy to retail industry patterns showing decreasing and historically low retailer inventories. Lukic (2012) describes Lean retailing as transforming the traditional way of a retail business to a new and more effective. He emphasizes operating strategy which requires maximum efficiency coupled with identification and elimination of waste. Specific waste reduction areas may include (Jaca et al., 2012; Kroes et al., 2018):

- Enhancing inventory management practices,
- Consolidating unprofitable store locations,
- Maximizing retail space efficiency within the store,
- Focus on high-demand products,
- Better utilization of employee potential,
- Enhancing transportation and logistics,

- Preventing defective merchandise from reaching stores, and others.

Ultimate goal of Lean retailing is to ensure a rapid and efficient flow of goods to the customers, thus ensuring quick replenishment of shelves and other points of sale (Lukic, 2012; Daine et al., 2011; Marques et al., 2022). It means operating without waste through building a series of simple innovations that make it possible to provide continuity in process flow, seamless, fast value chain, and a variety of product offering, that is personalized to the customer (Lukic, 2012; Cooper, 2017).

Research works indicate that Lean principles can be effectively applied in the retail industry by using different Lean tools and techniques, such as 5S, Value stream mapping, Kaizen, Kanban, Visual management, Standardization, Just in time, Stand-up meetings, and others (Minh & Anh, 2015; Noda, 2015; Evans & Lindsay, 2015; Özkavukcu & Durmuşoğlu, 2016; Bedoya et al., 2021; Marques et al., 2022). They help enterprises to identify activities that add no value and thus reduce waste, improve operational flow, produce operations and services at the lowest cost and as fast as possible, improve resource efficiency, improve on-shelf availability, increase customer satisfaction and sales margins, increase productivity, and thus increase profitability (Jaca et al., 2012; Lukic, 2012; Minh & Anh, 2015; Cooper, 2017; Kroes et al., 2018; Madhani, 2020).

Despite above mention potential benefits, when implementing Lean concept in the retail sector, there is a range of barriers to consider. Noda (2015) explains that applying Lean to retail and to service industry in general is more complicated because of the nature of the business, including different adjustment factor that is needed between supply and demand, simultaneous production and consumption of services, and customer's involvement in service production. Based on research works conducted by Čiarnienė and Vienažindienė (2015), Čiarnienė and Smilgevičiūtė (2017), Amine and Hadri (2021), Asadian et al. (2021), Benkarim et al. (2021), Maware and Parsley (2022), Schulze and Dallasega, (2023), Vienažindienė and Čiarnienė (2023), there should be emphasized three main categories of barriers to Lean implementation:

1. People-related barriers. These barriers come from human behavior and attitudes within an organization. Resistance to altering established workflows, processes, or systems by both employees and management can hinder the integration of Lean principles. Without strong leadership support and commitment, initiatives may lack direction and fail to gain traction throughout the organization. Additionally, inadequate training in Lean principles could lead to misconceptions or improper application, diminishing their efficacy.

2. Organizational barriers. Organizational barriers mainly relate to the company's structural setup and policies. Rigid hierarchical structures and an absence of a culture promoting continuous improvement may hinder the development of a mindset conducive to ongoing enhancement, thereby complicating the integration of Lean principles into daily operations.

3. Process-related barriers. Arising from unclear, inefficient, or undefined operational processes, outdated technologies, poorly designed workflows, and poor data management, these barriers impede Lean implementation. The complexity of retail operations, such as diverse product lines, multiple locations, and varying customer demands, can also make Lean implementation more challenging. Recent disruptive events, like those triggered by the COVID-19 pandemic have highlighted vulnerabilities in supply chains, necessitating adaptations in Lean strategies to address volatility and ensure resilience.

In addition to the aforementioned barriers, focus on short-term results rather than long-term sustainable improvements should be acknowledged. Solely prioritizing short-term gains may hinder the comprehensive benefits achievable through successful Lean implementation. Cooper (2017) notices that Lean retail requires a lean process, lean culture and lean technology.

Based on the literature analysis, authors of the paper present theoretical conceptual model for Lean implementation in retail (see figure 1).
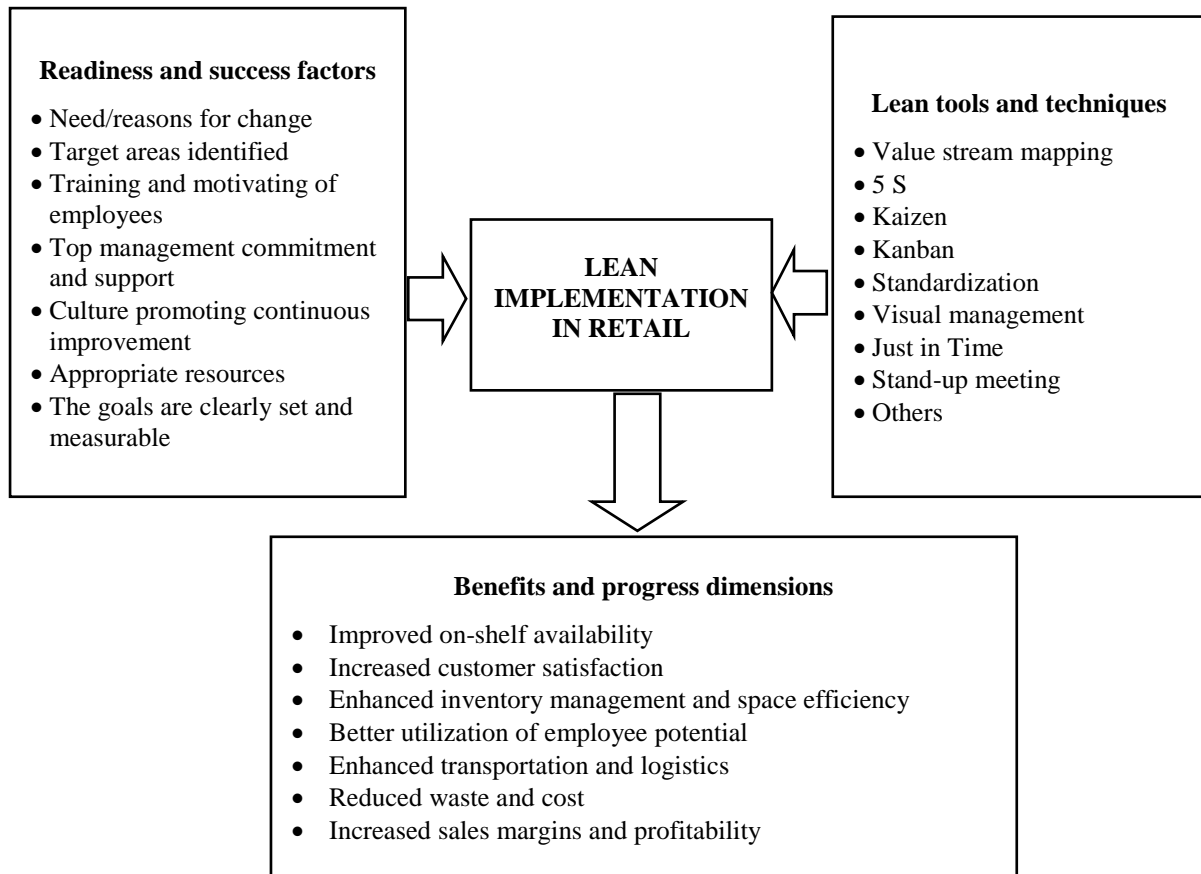

Figure 1. Theoretical conceptual model for Lean implementation in retail
Source: elaborated by the authors

Implementation of Lean concept within the retail company entails a systematic approach that involves identifying need for change and areas for improvement, developing a clear plan, training, motivating and supporting employees, establishing a culture for continuous improvement, allocating suitable resources, as well as consistently monitoring, and evaluating the progress.

Research methods

To investigate the possibilities and limitations of Lean application in retail, qualitative research was used in the form of semi-structured interviews based on open-ended questions. The agenda for the interview guide was developed based on the analysis of scientific literature. Interview guide covered the following areas: reasons to implement Lean concept; the main Lean tools and techniques in retail; barriers to Lean implementation in retail.

Numerous researchers agree that the semi-structured interview serves as a versatile and universally accepted method fostering a bilateral exchange between the interviewer and participant. This approach enables adaptability, facilitating the exploration of additional questions based on the responses given (Kallio et al., 2016; Gaižauskaitė & Valavičienė, 2016; DeJonckheere & Vaughn, 2019; Vienažindienė & Čiarnienė, 2023). Interviews enable us to

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learn things that we cannot see directly, such as behaviors or interactions that occurred in the past. Within interviews, one delves into opinions, attitudes, experiences, motives, and emotions, shedding light on these nuanced aspects (Gaižauskaitė & Valavičienė, 2016).

Participants for the interview were selected using targeted sampling representing managerial staff of retail company engaged in the retail of food products, mainly meat and meat products. Codes I1, I2 .... I7 were assigned to research participants to ensure privacy. More information about participants is presented in table 2.

Table 2. Information about the respondents
Source: elaborated by the authors

Code	Position in the company	Gender
I1	Sales manager	Female
I2	Store manager	Female
I3	Store manager	Female
I4	Sales manager	Male
I5	Store manager	Female
I6	Store manager	Female
I7	Head of the company	Male

Participants were initially contacted to arrange suitable timings and locations for the interviews. Individual interviews were conducted both in-person and remotely via Teams platform in 2022-2023. At the outset, interviewees were briefed on the research's objectives. Throughout the interviews, ethical guidelines were strictly adhered to: the interviewer refrained from expressing personal opinions, followed a predetermined interview structure, and ensured that respondents understood the questions and had ample time to respond. On average, each interview lasted approximately 40 minutes. Subsequently, the interviews were meticulously recorded, transcribed, and translated. The raw data underwent multiple readings and thorough content analysis. The data collected from the interviews were systematically processed through interpretation, systematization, analysis, and categorization of the responses.

Research results

Evidence citations were used to support the viewpoints expressed by interview participants, aligning with specific categories and subcategories identified during the content analysis process. The first category - Reasons for implementation of Lean concept covers three subcategories: 1) waste minimization, 2) process improvement, 3) increased profitability. Supporting statements are presented in Table 3.

According to the informants, there are many different reasons to implement Lean concept. One of the most important is to reduce different types of wastes such as excess inventory, expired products, and write-offs. Informants note that within a retail company, goods might not be adequately arranged, with fresher items often positioned closer or higher than those with a shorter shelf life. Consequently, newer products, designed for a longer shelf life, tend to sell out faster, whereas items with a shorter shelf life are purchased later, leading them to expire more rapidly and necessitating their removal from the market. More efficient replenishment of products, improvement of inventory management, better space utilization, standardized work practices and process improvements help to achieve more efficient use of resources, better on-shelf availability, improved customer service, and all this allows to reduce costs and increase profitability.

Table 3. Reasons for Lean implementation
Source: elaborated by the authors based on the answers of the respondents

Subcategory	Statements
Waste minimization	*"Positive experience of other organizations to reduce waste... "* [I1], [I5], [I7] *"Large write-offs of food products..."* [I6] *"Goods not sold on time..."* [I4] *"Over-ordering of products, as a result of which their write-offs are growing"* [I5] *"Reduce fresh wastes"* [I2], [I6] *"Poor on-shelf availability"* [I3], [I6], [I7] *"Lean could reduce losses due to supply. As an example, product shortages or, conversely, expired products"* [I4]
Process improvement	*"Lean allows optimizing the use of existing resources by eliminating unnecessary and/or inefficient processes"* [I4] *"Ensure better quality of work and reduce company costs"* [I3], [I2] *"Improvement of inventory management"* [I3], [I6] *"Aim to improve space utilization..."* [I7] *"Lean provides more efficient customer service…"* [I1] *"Desire to organize sales more effectively"* [I1] *"Facilitate ordering processes, inventory management"* [I2] *"Greater efficiency in the replenishment of fresh products"* [I5] *"Allows to improve the performance of in-store operations"* [I7] *"Standardized work and process improvements help to save time"* [I7]
Increased profitability	*"Positive experience of other organizations to achieve better work results"* [I2], [I5], [I7] *"Increase profitability with available resources"* [I1], [I7] *"Lean optimizes the company's operations, which automatically increases profits"* [I3] *"Lean concept allows not to waste resources and, as a result, earn more profit"* [I4] *"Attracting customers through competitive selling prices while reducing costs"* [I5] *"Efficient use of resources increases competitiveness and profitability"* [I6]

The second category – most successfully used Lean tools and techniques (four subcategories). Table 4 presents the interviewees' responses on the subject.

Table 4. Most successfully used Lean tools and techniques
Source: elaborated by the authors based on the answers of the respondents

Subcategory	Statements
5S	*"5S standardizes the work environment, allows it to be efficiently organized so that everything is in its place"* [I1] *"Regardless of which shift is being worked, the goods and tools used in the shop must have constant and most suitable places"* [I3] *"5S, because it ensures the standardization of the workplace"* [I7] *"5S is a very necessary tool"* [I2] *"5S help organize workplaces so that work can be done optimally"* [I4], [I5] *"5S ... encourages employees to improve their working environment and teaches them to see and reduce losses"* [I6]
Value stream map	*"With the value stream map, we see the biggest waste when the employee serves customers inefficiently, where most of the time is wasted"* [I1] *"Process mapping allowed to understand a process and its components more clearly"* [I2], [I5] *"The value stream map allows you to concentrate your efforts where it hurts the most instead of wasting energy on eliminating low-value losses"* [I4] *"Value-stream mapping helped to identify and reduce waste"* [13], [I7] *"Process mapping allowed to disclose inefficiencies"* [I6]

Kanban	*"Kanban helps ensure inventory management"* [I3] *"Kanban ensures efficient ordering of goods and maintenance of the balance in the warehouse"* [I1] *"With the help of this tool, we could significantly optimize our supply chain and reduce the volume of stored products"* [I4] *„Kanban helped to improve ordering of goods"* [I5]
Visual management	*Visual management would allow all participants in the process, especially new employees, to clearly understand the Lean system* [I2] *"Visual management is the tool that makes Lean so effective"* [I4]

Every informant within this category unanimously stressed the importance and usefulness of 5S and Value Stream Mapping. Additionally, Visual Management and Kanban have been successfully used within retail companies. One respondent highlighted the necessity of a composition of various Lean tools and techniques, arguing that on their own they serve more as „glitters" without creating much value.

The third category - barriers to Lean implementation. This category was divided into three subcategories: 1) People – related barriers, 2) Organizational barriers, 3) Process-related barriers. Explanatory statements about the main barriers and difficulties when implementing Lean concept in retail are presented in table 5.

Table 5. Barriers to Lean implementation
Source: elaborated by the authors based on the answers of the respondents

Subcategory	Statements
People – related barriers	*"Failure to communicate to employees about the benefits of Lean"* [I1] "*Employees don't want to change, don't accept innovations"* [I1] *"Lack of trained employees, passivity of employees"* [I2] *"Uncertainty, fear of innovation, little information about the system"* [I2] *"Not everyone will be able and open to innovation and may not agree to work according to the new system, this can result in the loss of an employee"* [I3] *"Lack of management involvement and leadership"* [I4] *"People are hostile when measured their work progress"* [I4] *"Employee passivity, unwillingness to change and improve "* [I5] *"Managers' indifference <...> Employees are not inclined to get involved"* [I6] *"Only resistance to change"* [I7] *"Lack of employee engagement"* [I1]
Organizational barriers	*"Non-compliance with the agreed system, missing important meetings due to the abundance of work"* [I2] *"The potential costs of implementing Lean can cast considerable doubt on the potential benefits in the future"* [I4] *"The most common doubts before starting to implement Lean is that it is an expensive system"* [I1] *"The biggest obstacle when implementing Lean is because of the fad, not really believing in Lean ideas"* [I4] *"Incorrect understanding of Lean philosophy and inflexible application of Lean methods"* [I6] *"Employees may be reluctant to change their work processes"* [I6] *"The system reduces the company's flexibility"* [I7] *"You need a specialist who knows this, you need investment, you need time, you need strong leadership"* [I7] *"The entire organization must be involved. Otherwise it will be chaos"* [I7]
Process-related	*"Resistance to alter work processes and methods"* [I1] *"Certain processes lacked clear descriptions"* [I2] *"Inadequate emphasis on data collection and result measurement"* [I7]

As per the feedback from informants, the primary barriers, slowing down Lean transformations include: insufficient knowledge and engagement; the old ways of working and resistance to change; lack of effective leadership; lack of resources; inadequate communication; weak link between organizational strategy and Lean principles; cost of implementation; and challenges in data collection and result measurement.

In order to reach progress and improve on-shelf availability, optimize inventory management and space efficiency, maximizing employee potential utilization, increase customer service and satisfaction, minimize wastes, increase sales margins and profitability, a retail company should first of all concentrate on people-related barriers. Training of employees, explanation of Lean benefits, motivating staff to implement successful ideas, and creating an enabling culture could be the first steps to successful Lean implementation.

Conclusions

Lean is a fundamental concept, not limited to a specific type or size of business. Research works conducted by Jaca et al. (2012), Noda (2015), Evans and Lindsay (2015), Robinson (2015), Minh and Anh (2015), Carmignani (2016), Özkavukcu and Durmuşoğlu (2016), Myerson (2017), Kroes et al. (2018), Morcillo-Bellido, Duran (2018), Chuang et al. (2019), Madhani (2020), Abdelhadi (2021), Bedoya et al. (2021), Silva et al., (2021), Marques et al. (2022) illustrate various improvement initiatives in the retail sector applying Lean principles, tools and techniques. The findings indicate that adopting Lean concept leads to the improved on-shelf availability, minimized wastes, optimized inventory management and better space utilization, increased customer service and satisfaction, increased productivity, sales margins and profitability.

From theoretical perspective, this research contributes by elaboration of the theoretical conceptual model for Lean implementation in retail. The model consists of the following elements: readiness and success factors, barriers to Lean implementation, Lean tools and techniques, and benefits, and progress dimensions. Implementation of Lean concept within the retail company entails a systematic approach that involves identifying need for change and areas for improvement, awareness of possible barriers and responding to them, developing a clear plan, training, motivating and supporting employees, establishing a culture for continuous improvement, allocating suitable resources, as well as consistently monitoring, and evaluating the progress.

Empirical research disclosed that there are many reasons why retail companies tend to implement Lean concept. Retailers want to ensure on-shelf availability, reduce different types of wastes, such as excess inventory, expired products, and write-offs, and improve customer service. These results confirm and complement the results determined by Lukic (2012), Carmignani and Zammori (2015), Kroes et al. (2018), Cooper (2017), Madhani (2020), Marques et al. (2022).

Analysing which tools from the Lean toolbox are most commonly used and have proven successful, it was found that most successful Lean tools in retail are 5S, Value stream map (VSM), Visual management, and Kanban. It can be argued that these results are in line with research works previously conducted by Evans and Lindsay (2015), Minh and Anh (2015), Robinson (2015), Bedoya et al. (2021), Marques et al. (2022). We also strongly agree with the opinion expressed by Minh and Anh (2015), that 5S, Kaizen, Visual management or other tools will not have any meaning if they exist only as slogans, or on paper, and are not the daily practice at the company level.

The analysis of results revealed that the primary barriers impeding or slowing down Lean transformations in retail companies are first of all related to people. Lack of employee knowledge on Lean concept, insufficient engagement, the old ways of working, resistance to change, lack of effective leadership, inadequate communication are serious obstacles to Lean success. Therefore, education and empowerment of retail employees, involving employees in the process, valuing their input, strong support and involvement from leadership, and fostering a culture of continuous improvement can significantly enhance the success of Lean implementation. These suggestions are in line with findings of Minh and Anh (2015), Madhani (2020). Lack of resources, weak link between organizational strategy and Lean principles, cost of implementation, challenges in data collection and result measurement should be also considered.

The results of this research provide practical implications for managers who are involved in the implementation of Lean concept in business, particularly in retail, as well as for scholars who are analysing this topic from both a theoretical and an empirical perspective.

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