

## KANBAN METHOD – MANAGEMENT TOOL FOR TRADE ENTITIES

### METODA KANBAN – INSTRUMENT AL CONTROLULUI DE GESTIUNE PENTRU ENTITĂȚILE DIN COMERȚ

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**Abstract.** The Kanban method, originally developed in the manufacturing industry, has found applications in various business sectors, including trade entities. Kanban is a visual management tool designed to improve workflow, efficiency, and overall operational performance. When applied to trade entities, Kanban can help streamline processes related to inventory management, order fulfillment, and supply chain optimization. Here's how Kanban can serve as a management tool in trade entities: visualizing inventory, setting stock limits, replenishment process, regular monitoring and updating, reducing waste, supplier collaboration, staff training, performance monitoring etc. Kanban in trade entities can lead to cost savings, improved inventory management, waste reduction, and increased customer satisfaction by ensuring the availability of desired products. However, it should be adapted to the specific needs of the trade entity and managed effectively to achieve the best results.

**Keywords:** Kanban, trade entities, tool, management control.

**JEL Classifications:** M40, M41.

#### Introduction

Kanban is a method commonly associated with manufacturing and project management, but it can also be applied in trade entities, particularly in the context of inventory management and supply chain optimization. Kanban is a Japanese term that means "visual card" or "signal," and it's often used to improve efficiency and reduce waste in various processes. Kanban is a method for managing and improving work processes through the visual representation of information. It is aimed at helping visualize workflow stages, maximizing efficiency, and continuously improving processes within an organization. How to use this methodology? What does it represent? We will provide all the essential information about the system and its practical application in the article. The Kanban method, as a management control tool, is widely used in manufacturing. This research aims to explore the application and adaptation of this method in trade entities, taking into account the specific nature of commercial activities, which are rather different from processes that are used in manufacturing entities.

### **Basic Content of the Paper**

#### *Review of the scientific literature*

A Kanban relies on the use of a physical card used in the production system to support decentralized production controls. It is an organizational method for managing production flows by triggering the production of a workstation upstream based on the demand from the downstream workstation, a continuous system of supplying components and parts in such a way that workers have what they need, where they need it, and when they need it (Sîli and Furdui, 2017). The researchers Bogdanova (2022) and Chiriac (2022) have presented the process of organizing project activities in the context of remote work using the online Trello board in a Kanban style. At the local level, we can also note other research related to the Kanban method, such as: Ciaicovscaia (2020), Levitskaia (2020), Lapteacru (2020), Dodu-Gugea (2020), Goremîchina (2018) and others. Thus, there is very little research addressing the theme under consideration, which reaffirms the relevance and importance of the research. Furthermore, in the Republic of Moldova, there is no research that addresses the implementation of the Kanban method in trade entities.

#### *Research methodology*

The methodological approach of the research ensures the validity and reliability of the obtained results and is based on both qualitative and quantitative aspects of the subject matter. It also employs research methods characteristic of the social sciences, including:

- Analytical method (the study of specialized literature within the scope of accounting and management control);
- Comparative method (investigation of relevant aspects regarding the informational priorities of management control as opposed to management accounting);
- Systemic method (argumentation and interpretation of the presented information);
- Synthesis method (synthesizing general aspects concerning management control and the decision-making process).

#### *Results and discussion*

The Kanban method, originally developed in manufacturing, can also be effectively implemented in trade entities or retail operations. It can be adapted to manage inventory, optimize supply chains, and streamline various processes within trade entities, helping to improve efficiency and reduce waste. Kanban's principles of visualizing work, setting limits, and using pull systems can be valuable in a trade context to maintain the right level of stock, coordinate with suppliers, and enhance overall operational performance.

Here's how Kanban can be adapted for trade entities:

- **Inventory Management:** In trade entities, maintaining the right level of inventory is crucial to meet customer demand without overstocking or understocking. Kanban can help manage inventory effectively by using visual signals (such as cards or markers) to indicate when it's time to reorder products. For example, when a certain product reaches a predefined minimum level, a Kanban card is generated, signaling the need to reorder more of that product.
- **Supplier Management:** Trade entities often rely on suppliers to provide them with the goods they sell. Using Kanban, you can establish a system of communication with suppliers to ensure a steady supply of products. When your inventory of a particular product is running low, you send a Kanban signal to your supplier to trigger a reorder. This helps streamline the supply chain and maintain optimal inventory levels.
- **Visual Management:** Kanban systems are known for their visual nature. You can implement a visual board or software tool that displays the status of your inventory, orders, and incoming shipments. Each product category or SKU can be represented by cards or labels with key information such as quantity in stock, reorder points, and expected delivery dates. This visual management system makes it easy to track and manage your inventory at a glance.

- **Workflow Optimization:** Beyond inventory management, Kanban principles can be applied to optimize various trade entity workflows, such as order processing, quality control, and customer service. Visual boards or software tools can be used to track the progress of orders and tasks, ensuring that work is efficiently prioritized and completed.
- **Continuous Improvement:** Kanban encourages a culture of continuous improvement by promoting transparency and allowing teams to identify bottlenecks and areas for enhancement. Trade entities can use feedback and data from Kanban systems to make informed decisions and streamline their operations over time.
- **Pull System:** Kanban operates on a "pull" system, where items are replenished based on actual demand rather than a forecast. This approach can help trade entities avoid overproduction, reduce carrying costs, and minimize waste.

There are several technological tools and software applications that can be used to implement the Kanban method in trade entities. Some of the main tools include:

1. Trello is a popular Kanban-style project management tool that allows you to create boards, lists, and cards to visualize and manage tasks, projects, and inventory.
2. Kanbanize is a dedicated Kanban software that provides advanced features for managing workflows, visualizing work, and tracking progress in trade entities.
3. Jira Software is a versatile project management tool that supports Kanban boards, ideal for tracking and managing tasks, projects, and inventory.
4. Asana offers Kanban boards as part of its task and project management features, making it a suitable tool for visualizing and managing work in a trade context.
5. Monday.com is a work operating system that allows you to create customizable Kanban boards for managing various processes, including inventory and supply chain activities.
6. Wrike is a project management and collaboration platform that offers Kanban boards to help trade entities streamline and manage their workflows.
7. Smartsheet provides a Kanban view that can be customized to manage inventory, orders, and supply chain activities efficiently.
8. Microsoft Planner for businesses using the Microsoft 365 ecosystem, Microsoft Planner offers a Kanban board feature for managing tasks and projects.
9. Zoho Projects includes Kanban boards as part of its project management capabilities, enabling trade entities to organize their work effectively.
10. ClickUp is a versatile work management platform that includes Kanban boards for visualizing and managing various trade-related processes.

Certainly, here are a few more technological tools that can be used to implement the Kanban method in trade entities: Airtable, KanbanFlow, LeanKit, ZenHub, Taiga, MeisterTask, VivifyScrum, Pipefy, ProWorkflow, Quire etc.

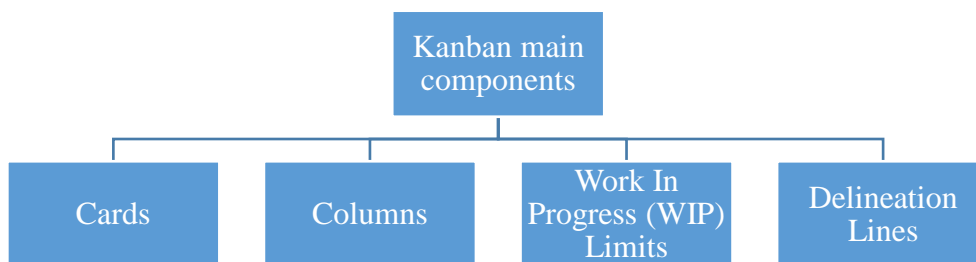
These tools can be tailored to the specific needs of trade entities, offering features to track inventory, orders, and supply chain activities, while providing a visual representation of work to enhance efficiency and organization. The choice of tool may depend on your organization's size, specific requirements, and integration with existing systems.

The fundamental elements of the Kanban method emerged in 2007 and consisted of a board with three columns - "To Do", "In Progress" and "Done" The methodology uses diagrams, lists, and statistics to illustrate the stages of the workflow and its efficiency. This helps assess the outcome of any ongoing project. Kanban also employs a task limit factor to restrict the number of tasks that can be worked on simultaneously. This is done to prevent excessive stress and workload on specific areas of work.

The Kanban board has come a long way to become what it is today. It consists of cards, columns representing different stages, delineation lines, and limits on unfinished tasks. All these board

elements help the team effectively visualize the stages of work and manage them. The main components of a Kanban board are:

1. Cards: These are visual representations of tasks. Each card contains information about the task, its status, deadlines, the responsible person, and other necessary information according to the team's needs.
2. Columns: These represent individual stages of the workflow. Cards progress through all the workflow stages until they are completed.
3. Work In Progress (WIP) Limits: These restrict the maximum number of tasks at different workflow stages. WIP limits help expedite workflow processes, allowing the team to focus only on the designated current tasks.
4. Delineation Lines: These are horizontal lines on the board used to separate different types of activities, teams, types of work, and more.



**Fig.1.** Kanban main components

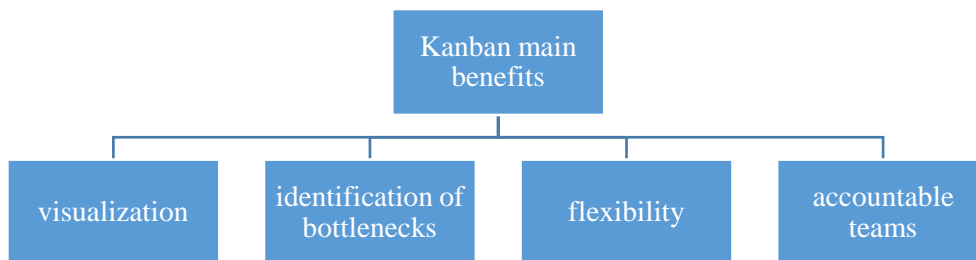
*Source: elaborated by the author*

In order to provide a detailed representation of the process under consideration, there can be created as many columns on the board as necessary to visualize the workflow with maximum accuracy.

The most obvious advantage is the methodology contributes to bringing order to chaotic work processes and helps accomplish more.

To see the real benefits of using it, it should be delved a bit deeper:

1. The core idea of Kanban is to visualize every work process on a board. This transforms the board into a central information hub. All tasks are visible, and nothing gets lost, adding transparency to all stages of work. Each team member can quickly access updated information about the project or task status.
2. Kanban identifies bottlenecks in the workflow. Once the board is filled with cards, it becomes apparent that some columns are overflowing with tasks. This helps pinpoint workflow bottlenecks and address them.
3. Kanban provides flexibility. If you look at the fundamental principles of the methodology, you'll understand that any department in a company can use them. The main reason is that Kanban takes the organization's current state, requiring no revolutionary changes. Instead, it suggests that all innovations should be gradual, while the company continually strives to improve its processes.
4. The team becomes more accountable. Employees focus on completing current tasks rather than creating new ones, enhancing company collaboration and productivity.



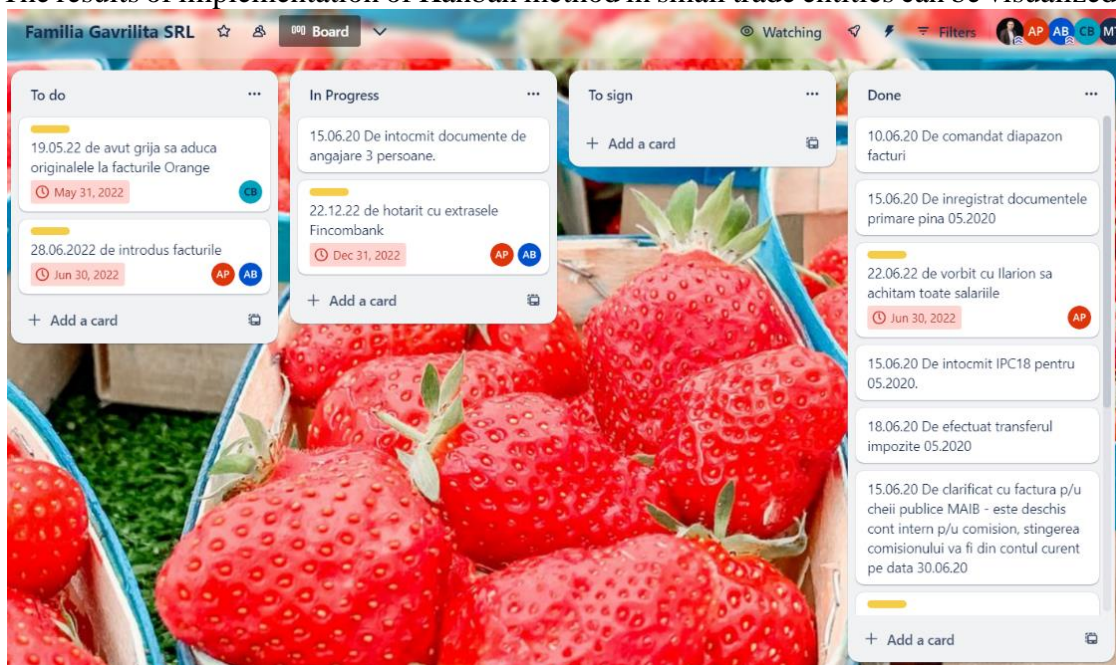
**Fig.2.** Kanban main benefits

*Source: elaborated by the author*

As technology advances, Kanban continually evolves. Digital Kanban board solutions have replaced physical boards with stickers. Digital counterparts have been developed to address the challenges faced by remote teams. Digital boards, accessible from anywhere in the world, have been created for this purpose.

Cloud-based Kanban boards are the most efficient way for teams to stay on the same path. They provide access to all information from any device at any time and display real-time actions. In addition, Kanban software enables a complex analytical process, allowing for detailed performance tracking, bottleneck identification, and the implementation of necessary changes. Online Kanban solutions also automate certain processes, saving valuable time and making repetitive work more efficient. For example, the ability to create Kanban boards is now available in the "1C: Enterprise Management" solution. To organize and optimize tasks, you can create personal or team boards for planning your personal tasks or your workgroup's tasks. You can also use them for customer outreach, organizing daily tasks, or event planning.

The results of implementation of Kanban method in small trade entities can be visualized below:



**Fig.3.** Trello application – implementation of Kanban method

*Source: elaborated by the author*

Above, it can be seen, through a concrete example, how the columns were set: to do, in progress, to sign, done. Similarly, the process of creating cards is demonstrated, where the task to be accomplished is indicated. Usually, when opening a card, which means creating a task, a deadline for completion and the person responsible for executing the task are established. Similarly, within the card, relevant

comments regarding the task's progress can be left, documents and other necessary materials for completing the set task can be attached. In this case, for implementing the Kanban method as a management control tool, the Trello application was used, which has proven its effectiveness even within commercial entities. Certainly, the Trello application is widely used in trade entities as a Kanban method tool to streamline workflow processes, manage tasks, and improve overall efficiency. It provides a visual platform with boards, lists, and cards that can represent different stages of work, tasks, or projects. Here are some additional points to consider:

1. **Visual Task Management:** Trello offers a visually intuitive way to manage tasks and projects. Each task is represented as a card, which can be moved through various columns representing different workflow stages, making it easy to track progress.
2. **Collaboration:** Trello supports collaboration within trade entities by allowing team members to view and update task cards in real time. Comments and file attachments can be added to cards for communication and documentation.
3. **Flexibility:** Trello's flexibility allows trade entities to adapt the Kanban method to their specific needs. Boards can be customized to match the workflow and processes that are unique to the organization.
4. **Integration:** Trello integrates with many other applications and services commonly used in trade entities, making it a versatile tool for managing various aspects of the business, from inventory management to project tracking.
5. **Remote Work:** Trello's cloud-based platform is especially useful for trade entities with remote or distributed teams. Team members can access boards from anywhere, facilitating collaboration even when not physically present.
6. **Analytical Tools:** Trello provides analytical tools and reporting features that help trade entities track performance, identify bottlenecks, and make data-driven decisions to improve efficiency.
7. **Automation:** Trello also offers automation features that can help streamline routine tasks and processes, reducing manual workloads.

Within the trade entity, the Kanban method, using the Trello application, began to be implemented starting in 2020. As a result, in its evolution, the positive impact of applying this method on the financial results of the entity has been demonstrated.

<b>Denumire:</b>	SRL "FAMILIA GAVRILITA"	
<b>CAEM2:</b>	A0125 - Cultivarea arbusrilor fructiferi, capsunilor, nuciferilor si a altor pomi fr	
<b>Indicatori din situatiile financiare prezentate pentru perioada</b>	01.01.2020 - 31.12.2020	
<b>Situatii Financiare</b>		
Denumirea indicatorilor		mii lei
⇒ <b>SITUATIA DE PROFIT SI PIERDERE PRESCURTATA -</b>		
Venituri din vinzari		48.4
Costul vinzarilor		46.5
Profit brut (pierdere bruta)		1.9
Alte venituri din activitatea operationala		39.1
Cheltuieli de distribuire		26.6
Cheltuieli administrative		36.9
Rezultatul din activitatea operationala: profit (pierdere)		-22.6
Rezultatul: profit (pierdere) financiar(a)		
Profit (pierdere) pina la impozitare		-22.6
Cheltuieli privind impozitul pe venit		1.9
Profit net (pierdere neta) al perioadei de gestiune		-24.5

**Fig.4.** Indicators from the financial statements presented for the period 2020

Source: <http://webapp.statistica.md/infoRsf/>

<b>Denumire:</b>	Societatea cu Raspundere Limitata "FAMILIA GAVRILITA"	
<b>CAEM2:</b>	A0125 - Cultivarea arbusrilor fructiferi, capsunilor, nuciferilor si a altor pomi fr	
<b>Indicatori din situatiile financiare prezentate pentru perioada</b>	01.01.2021 - 31.12.2021	
<b>Situatii Financiare</b>		
Denumirea indicatorilor		mii lei
⇒ <b>SITUATIA DE PROFIT SI PIERDERE PRESCURTATA -</b>		
Venituri din vinzari		145.2
Costul vinzarilor		141.5
Profit brut (pierdere bruta)		3.8
Alte venituri din activitatea operationala		46.9
Cheltuieli de distribuire		23.1
Cheltuieli administrative		35.5
Alte cheltuieli din activitatea operationala		1.9
Rezultatul din activitatea operationala: profit (pierdere)		-9.8
Profit (pierdere) pina la impozitare		-9.8
Cheltuieli privind impozitul pe venit		5.8
Profit net (pierdere neta) al perioadei de gestiune		-15.6

**Fig.5.** Indicators from the financial statements presented for the period 2021

Source: <http://webapp.statistica.md/infoRsf/>

In summary, the implementation of the Kanban method has had a multifaceted and positive impact on various performance indicators within the trade entity, resulting in improved efficiency, cost reduction, and increased customer satisfaction. These improvements translate into better financial results and overall business success. The results of the implementation of Kanban method are presented:

**Table no. 1. The evolution of performance indicators resulting from the implementation of the Kanban method, 2020-2021**

Indicators	2020	2021	Evolution
Sales revenues	48.4	145.2	+96.8
Net profit (Net loss) for the financial period	-24.5	-15.6	+8.9

Source: trade entity Familia Gavrilița SRL.

While the Kanban method offers numerous benefits, it's important to consider potential drawbacks and challenges as well. Some of the negative aspects of the Kanban method include:

1. **Complexity of Implementation:** Implementing Kanban effectively can be complex, especially in larger organizations with existing processes. It may require a significant cultural shift and changes to existing workflows.
2. **Resistance to Change:** Team members and stakeholders may resist adopting Kanban, particularly if they are accustomed to traditional methods. Resistance to change can slow down or hinder the implementation process.
3. **Limited Planning:** Kanban is often viewed as more of a reactive approach. It may not provide the comprehensive planning and project management features that some organizations require for larger and complex projects.
4. **Overemphasis on Efficiency:** While Kanban is excellent at improving efficiency and reducing waste, it may not prioritize strategic long-term planning and goal-setting as much as other methodologies like Scrum.
5. **Lack of Clear Structure:** Some teams may struggle with the flexibility of Kanban, as it provides less structure compared to other methodologies. This flexibility can sometimes lead to confusion or a lack of clear direction.
6. **Risk of Overloading:** Without proper Work In Progress (WIP) limits, teams may take on too many tasks at once, leading to overloading and reduced productivity. It's crucial to set and enforce WIP limits effectively.
7. **Dependence on Team Collaboration:** Effective Kanban implementation relies heavily on team collaboration and communication. If these elements are lacking, the method may not be as successful.
8. **Not Ideal for All Types of Work:** Kanban is best suited for workflows with a steady and predictable stream of work. It may not be the most suitable method for highly dynamic, unpredictable, or creative work.
9. **Difficulty in Scaling:** While Kanban works well for single teams or smaller projects, scaling it to larger organizations or complex projects may require additional frameworks or adaptations.
10. **Inadequate for Strict Deadlines:** Kanban's focus on flow and continuous improvement may not align well with projects that have strict deadlines or time-sensitive requirements.

It's essential to weigh the pros and cons of the Kanban method and carefully consider whether it aligns with your organization's specific needs, culture, and project requirements. Additionally, adaptability and the willingness to address challenges and make necessary adjustments are key to successful Kanban implementation.



## Conclusions

It's important to note that the specific implementation of Kanban in trade entities can vary depending on the industry, organization size, and specific needs. The key is to adapt Kanban principles to improve the management of inventory, supply chain, and workflow processes to enhance overall efficiency and customer satisfaction. When choosing a specific tool for implementing Kanban in a trade entity, it's important to consider factors such as ease of use, scalability, integration capabilities, and pricing. Different tools offer various features and levels of customization, so it's a good idea to evaluate them based on organization's unique needs and requirements. The impact of implementing the Kanban method on the performance indicators of the trade entity has been substantial. This methodology has contributed to improved efficiency, reduced lead times, and better resource allocation. As a result, key performance indicators such as on-time delivery, inventory turnover, and overall productivity have shown notable enhancements. Additionally, the transparency and real-time tracking offered by Kanban boards have empowered teams to make informed decisions and address bottlenecks swiftly, positively affecting performance indicators across the board. The impact of the Kanban method on the performance indicators of a trade entity extends to various areas, resulting in improvements in resource utilization, customer satisfaction, sustainability, and adaptability. By fostering a culture of continuous improvement and enabling data-driven decision-making, Kanban contributes to the overall success and competitiveness of the trade entity in the dynamic business environment. This method has proven to be a valuable tool in optimizing trade entity operations and enhancing overall business outcomes.

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