Annual International Scientific Conference
"Competitiveness and Innovation in the Knowledge Economy"
September 26-27, 2025
Chisinau, Republic of Moldova

DOI: https://doi.org/10.24818/cike2025.01

APPLICATION OF THE OPERATIONAL QUALITY CONTROL SYSTEM IN THE MANAGEMENT PRACTICE OF A COMMERCIAL COMPANY

ALA COTELNIC
Department of Management and Entrepreneurship
Academy of Economic Studies of Moldova
Chisinau, Republic of Moldova
e-mail: cotelnic.ala@ase.md
ORCID ID: 0000-0002-6599-6473

VITALIE EMELIAN
Doctoral School
Academy of Economic Studies of Moldova
Chisinau, Republic of Moldova
e-mail: vitmd8@gmail.com
ORCID ID: 0000-0002-4261-7346

Abstract: The paper examines the role and importance of the operational quality control system within a company in the field of commerce. The purpose of the research consisted in the development and implementation of an efficient operational system of quality control, designed to enhance organizational performance and customer satisfaction levels. The applied methodology was selected in accordance with the study objectives and encompassed an analysis of the specialized literature on quality management, with a focus on service quality control, the identification of the main existing problems and gaps, as well as the use of the case study as a qualitative research method to test the applicability of the obtained results. The research commenced with the establishment of the fundamental stages for implementing the operational quality control system within KAMOTO SRL, each stage being addressed in a detailed and systematic manner. The results of the implementation demonstrated the efficiency of the system, evaluated through company-relevant indicators: sales volume, sales lead conversion rate, customer abandonment rate, refusals and returns, packaging quality, and customer satisfaction level. As an outcome of the research, a complex algorithm of quality control applicable to commercial enterprises was elaborated, which was successfully tested within a real company, providing a practical and reproducible framework for optimizing quality processes and increasing organizational performance.
Keywords: operational quality control system, sales quality, customer satisfaction, performance indicators, CRM.
JEL Classification: L21, L81.

Introduction.

Over the past decade, the importance of service quality has grown considerably at both the national and international levels. An increasing number of organizations around the world are focusing on improving the customer experience to strengthen their brand reputation and boost sales. The emphasis has shifted from merely delivering a product to providing a complete, high-quality experience for customers.

Today's customers have high expectations when interacting with a company. They seek a better balance between quality and price and desire superior services that inspire confidence and satisfaction in their choice. A poor post-sales experience, such as difficulty obtaining a refund for a defective product, can lead to frustration and negative perceptions. Conversely, customers who benefit from efficient, courteous service are far more likely to recommend the company to their

peers. Therefore, it is crucial for organizations to invest in building strong, positive relationships with existing and potential customers.

In the context of ever-increasing demands for high-quality service, companies must provide outstanding experiences at every customer touchpoint. This requires developing efficient processes, modern systems, and appropriate tools that consistently support excellent service delivery.

To ensure quality services, a key element in the activity of organizations in the field of commerce is quality control, which has a direct impact on customer satisfaction, loyalty, and the long-term success of the business. In today's competitive business landscape, quality control has evolved from being a simple manufacturing requirement to a critical component of success across all sectors. Modern companies do not implement quality control merely to meet basic standards—they use it to impress customers, increase efficiency, and foster a culture in which "good enough" is never acceptable.

The aim of this research is to develop and implement an efficient operational quality control system within a company operating in the field of commerce, with the purpose of enhancing organizational performance and customer satisfaction.

Research methodology.

In accordance with the study's objectives, the research methodology was established and combined theoretical and practical approaches to achieve a comprehensive evaluation of quality control. In the first stage, a detailed analysis of the specialized literature in the field of quality management was carried out, with particular emphasis on service quality control, identifying the main problems, gaps, and best practices reported in previous research. This analysis provided a solid theoretical foundation for developing the operational quality control system. In the second stage, the case study was employed as the primary qualitative method, allowing for the testing of the applicability and effectiveness of the proposed solutions in the real context of a company. This approach facilitated a practical evaluation of internal processes and the relevance of the selected performance indicators, providing concrete data for the adjustment and optimization of the quality control system.

Results and discussions.

Theoretical considerations on quality control

Quality control is a vital process that ensures enterprises consistently comply with product and service standards. Its primary purpose is to identify and correct defects, safeguard customer satisfaction, and preserve brand reputation. It is well established that quality control measures have a direct impact on customer satisfaction, which is the main factor defining business reputation (Jamil et al., 2024). Companies that succeed in building a solid reputation for quality hold a superior position compared to their competitors, with greater chances of creating and maintaining a distinct market niche that is difficult to replicate (Abbas, 2020). A strong reputation is not limited to the initial attraction of customers but also contributes to their loyalty, increased trust, and the consolidation of long-term competitive advantage. Conversely, the absence of rigorous quality control inevitably leads to non-compliant or poor-quality products, customer dissatisfaction, and the deterioration of the company's image. Restoring this image is often difficult, time-consuming, and extremely costly, as it requires significant investments in both internal processes and communication campaigns aimed at regaining market trust.

In the retail sector, where direct interaction with customers is frequent, quality extends beyond the intrinsic attributes of the product to encompass its presentation, packaging, delivery, and the provision of after-sales services. Consequently, quality control must be conceived as a comprehensive process that spans the entire supply chain, from supplier selection to the ultimate customer experience.

Trading companies use quality control to:

- monitor and evaluate the quality of products or services;
- identify and fix defects before they become a problem;
- minimize waste and reduce costs;
- keep customers satisfied (and keep them coming back);
- drive continuous improvement initiatives;
- build and maintain customer trust and loyalty.

Effective quality control helps businesses prevent costly mistakes and consistently deliver reliable products, fostering customer trust and loyalty. By implementing quality control, businesses maintain consistency, improve operational efficiency, and promote continuous process improvement.

The contemporary business environment requires quality control to be understood as systematic monitoring and evaluation of products, services, and processes in order to ensure consistent quality and prevent defects. Unlike traditional approaches, which focus primarily on the inspection of the finished product, modern quality control is integrated throughout the entire business lifecycle (Billiet, 2025).

Numerous academic sources that focus their research on quality management, including quality control, within industrial enterprises (Zacharias, 2022; Mareček-Kolibiský et al., 2021), while fewer studies analyze this concept with reference to the commercialization process of manufactured products. This suggests that researchers often emphasize the primacy of product manufacturing quality over the quality of the sales process. To some extent, this perspective may be accepted: when products are poorly manufactured, their commercialization becomes more complicated (although not impossible). On the other hand, well-manufactured (high-quality) products do not reach consumers by themselves, and therefore cannot generate revenue for the company. In order to successfully commercialize products and convince consumers of their necessity, significant effort is required. Thus, the quality of the commercialization process is of comparable—if not superior—importance to that of product manufacturing quality.

Retail companies have adapted quality control principles to their unique challenges by (Figure 1)

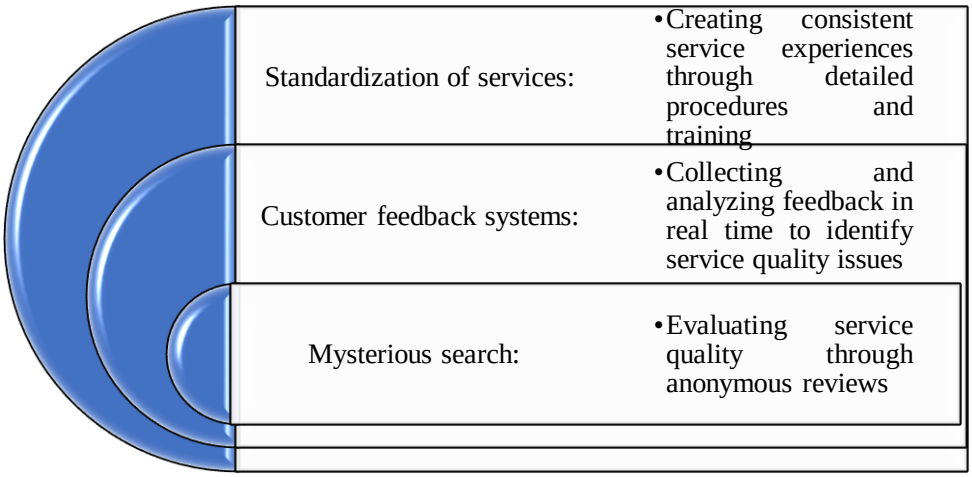

Figure 1. Methods for adapting quality control principles for companies in the trade sector

Source: elaborated by the author

These methods enable service enterprises to deliver consistent experiences despite the inherent variability of human interaction.

Sales success largely depends on the level of customer service and the quality of the products and services offered. In this context, sales quality control plays a key role. Its main tasks

consist of identifying and eliminating vulnerabilities in the sales process, as well as improving customer interaction. The process of sales quality control may be understood as a means of assessing the effectiveness of each sales department: the number of transactions concluded by managers, the manner in which negotiations are conducted, the workload of employees, and the profit levels expected in the upcoming period.

Developing and testing an operational quality control system: case study.

The research was conducted on the case of KAMOTO SRL, a small enterprise located in Chișinău, which has been operating on the Moldovan market since 2013. The company's main activity consists of the wholesale trade of agricultural machinery, equipment, and supplies.

In the context of the modern market, with the growth of sales and the expansion of the KAMOTO SRL retail chain to 11 outlets, the company identified the need to implement an Operational Quality Control System (OQCS), with the expectation of increasing customer satisfaction and company revenues. The primary objective of implementing the OQCS is to ensure process standardization, improve the quality of customer services, and enhance the efficiency of inventory management and financial performance indicators. The implementation process was lengthy and included several key stages, such as the development of a control map, employee training, and system testing.

The basic stages of OQCS implementation within the company are presented in Figure 2.

Figure 2. Basic stages of implementing the operational quality control system in the company KAMOTO SRL

Source: elaborated by the author

A brief characterization is provided regarding the company's achievements at each of the mentioned stages.

Stage 1. A quality control map was developed as a standardized tool for monitoring the company's essential processes, ranging from the supply of tools to sales and warranty services. The map was developed based on an analysis of substantial data, including regulations, sales statistics, the results of previous inspections, and customer feedback. Control norms and standards were formulated in compliance with national requirements and European standards concerning the quality of tools. The list of reports and key performance indicators was established in collaboration with management and the staff responsible for sales, logistics, and after-sales service. The control map covers the following areas: product quality, customer service, warranty case management, internal auditing through anonymous buyers, financial reporting, and customer satisfaction surveys.

Stage 2. Identification of the instruments to be used for quality control. The instruments available to a company for quality control depend on its resources, specific context, size, and business objectives, with each company selecting its own set of tools. From among the generally accepted recommendations, those instruments considered necessary for KAMOTO SRL were selected (Figure 3).

The description of the instruments selected for sales quality control at KAMOTO SRL is presented below.

Planning and reporting are essential instruments for controlling the quality of sales. The company develops plans to motivate employees to achieve established objectives, and the corresponding reports serve as progress indicators and measure the degree of compliance with the plans.

Another important tool is *customer surveys.* These allow for the assessment of satisfaction levels regarding the quality of products and services provided. An increase in the number of satisfied customers reflects adequate performance in this area, whereas a decrease in this indicator signals the need for improvement measures.

Call recording facilitates the monitoring of employee discipline and behavior in interactions with customers, particularly in conflict situations or when sales objectives are not achieved. At the same time, it provides managers with the possibility to control the sales process and to support the training of new employees.

Employee evaluation serves to maintain a high-performing sales team, to highlight strengths and areas for improvement, to stimulate motivation, and to provide a basis for training plans and skills development.

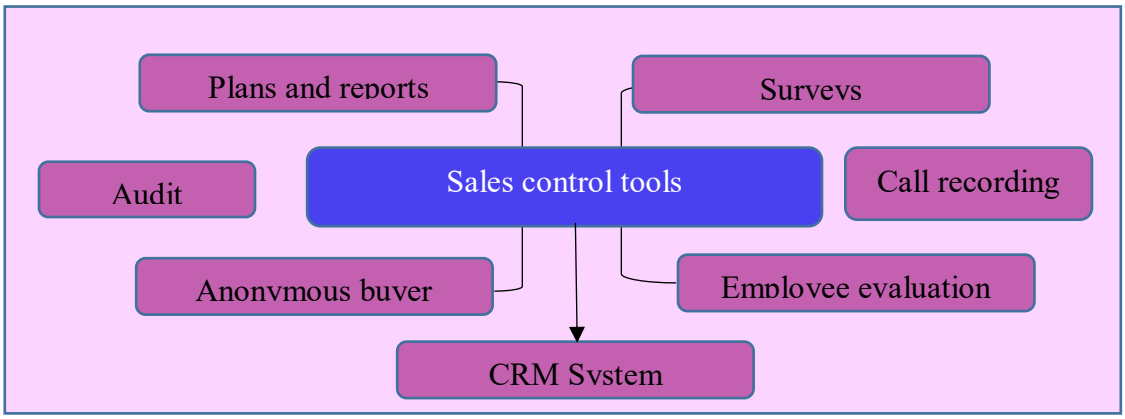

Figure 3. Tools used to perform sales quality control
Source: developed by the authors after HAYDU (2024).

The Customer Relationship Management (CRM) system enables a comprehensive analysis of customer interactions, ranging from database segmentation and task monitoring to tracking the speed of request processing. In addition, it facilitates the management of sales channels and the partial automation of commercial processes.

The mystery shopper method involves the use of an independent expert who, under the identity of an ordinary customer, evaluates the performance of the sales service based on predefined criteria. The resulting report provides management with an objective overview of the situation and highlights the aspects requiring improvement.

Process audit. The internal processes of the company are periodically evaluated to verify compliance with requirements, the timely coordination of tasks, and the proper allocation of responsibilities. This type of audit is particularly important in situations where dysfunctions occur, as it is used to identify their causes and the areas requiring improvement.

Stage 3. Employee training. This stage is essential for aligning employees with the new system and quality standards, as well as for improving staff qualifications in the field of quality management. At KAMOTO SRL, prior to the launch of the quality control system, a series of training courses were organized for employees, focused on:

Product quality control – for warehouse and logistics employees. Employees received training on product quality, emphasizing the importance of maintaining quality to ensure customer

satisfaction and protect the company's reputation. During the training sessions, employees were introduced to product characteristics, quality standards specific to each product type, methods for identifying compliant and low-quality products, and proper handling techniques to prevent defects. Training also covered the optimal storage conditions (temperature, humidity) required to maintain product quality. Furthermore, employees were instructed in the procedures for product verification at receipt and prior to dispatch, the process of reporting non-compliant products, and the provision of accurate and complete information regarding available products. Employees were also familiarized with the warehouse management system (WMS) used for inventory control.

Customer service and sales – for store personnel. Employees were trained in the following areas:

- *Product preparation.* Two training sessions were organized to introduce sales personnel to product characteristics, advantages, disadvantages, and methods for identifying customer-relevant benefits. When new products arrive in the store, employees are instructed to provide customers with as much information as possible regarding these products.

- *Communication skills.* Employees are trained to communicate more effectively with customers, including how to ask relevant questions and listen attentively to the answers. This is essential for understanding how a product or service can address a customer's problem. It is also important for employees to know how to respond to questions and complaints related to product quality. The company continuously collects customer feedback, and the results are discussed with the team on a monthly basis.

- *Data analysis.* Employees were trained to work with the CRM system, focusing on the correct use of analytical tools and the interpretation of data, as well as on how these data can be utilized to improve sales quality. Based on the training outcomes, a checklist for evaluating the performance of store employees was developed and subsequently integrated into the quality control system.

Stage 4: Pilot testing of the system. This stage was necessary to verify the quality control system under real conditions, test the control map, and integrate it with existing corporate systems. Accordingly, the pilot test was carried out in two company stores and in the main logistics center. The testing process included data collection, verification of the reporting system, and evaluation of the effectiveness of the control process. During this stage, several deficiencies were identified, such as:

Difficulties in integrating the new system with the existing CRM, which required additional adjustments during the testing phase.

Insufficient attention from employees in completing the new reporting forms, which necessitated further staff training.

Stage 5. Evaluation and review. Following the testing phase, the control map and reporting procedures were revised and adjusted.

Reports prepared across different quality dimensions are an essential tool for controlling the quality of sales. In this context, defining and establishing clear performance indicators is essential. Key performance indicators (KPIs) enable the analysis of departmental activity and individual employee performance and provide an objective assessment of results. The transparency and clarity of KPIs provide managers with the ability to monitor the structure and efficiency of operations, while offering employees a clearer understanding of the objectives pursued through sales monitoring.

After analyzing several performance indicators used by various companies in the sales sector, the following were identified as the most significant for KAMOTO SRL:

1. *Sales volume* - this indicator highlights the number of goods or services sold by the company over a specific period of time. At KAMOTO SRL, sales volume is monitored on a daily basis in order to analyze its dynamics and to support decision-making when necessary.

2. *Sales lead conversion.* This indicator measures the proportion of potential customers who ultimately complete a purchase. A low conversion rate may indicate the need for additional employee training sessions aimed at improving sales skills.

3. *Customer churn rate.* This indicator measures the proportion of customers who have ceased communicating with the company. To identify the underlying reasons—which may sometimes be objective and unrelated to the company's activity—and to prevent further customer loss, the implementation of a customer survey is planned. Following the introduction of the CRM system, the company will continue to use this indicator as a key measure of customer retention.

4. *Refusals and returns.* This indicator measures the number of purchase refusals or product returns. It serves as an important tool for identifying existing problems and addressing them in the future. An increase in refusals may indicate the need for additional employee training on how to interact more effectively with customers.

5. *Packaging quality.* For most of the products sold in KAMOTO SRL stores, packaging plays a crucial role in ensuring and maintaining product quality until the goods reach the consumer.

6. *Customer satisfaction service level* regarding the quality of products purchased and the quality of services offered in the company's stores.

The company monitors customer satisfaction by periodically administering questionnaires (Emelian, 2025), addressed both to clients of its physical stores and to those of its online shop. The mystery shopper method is also employed. The feedback results are analyzed by the company's management, and appropriate decisions are subsequently taken.

At the same time, KAMOTO SRL periodically conducts product quality control prior to their dispatch to stores and customers. The key indicators used for this purpose are packaging quality and defect rate. Quality control reports are prepared after each inspection. The example presented in Table 1 refers to the verification of a lot of gasoline trimmers prior to their dispatch to a wholesale buyer in September 2024.

Table 1. Examples of quality control reports

Indicator	**Standard size**	**Actual size**	**Comments on the results**	**Recommendation**
Packaging quality	100% integrity	3% damaged packaging	The packaging was damaged during transportation	Packaging needs to be improved
Defect percentage	< 1% from sales volume	1,20%	Defective products were shipped to customers	Improving control at reception

Source: Developed by the authors based on research conducted.

Based on the report, additional measures were introduced for packaging verification and for strengthening quality control during the transportation of goods.

An important stage in the implementation of the quality control system was the improvement of inventory control. The system enabled the identification of surplus stocks and the introduction of mechanisms to increase their turnover (Table 2).

Table 2. Data before and after the implementation of the quality control system

Indicator	Before implementation	After implementation
Average order processing time, hours	5	2
Customer satisfaction level (max 5)	2,8	3,5
Average inventory turnover period, months	8	5,2
Average debt repayment period, months	7	5,4
Share of warranty cases, %	4	2,80

Source: Developed by the authors based on research conducted.

It should be noted that the process of implementing the quality control system within the company was accompanied by a series of difficulties that required particular attention. In particular:

• integration with the existing CRM system proved to be more complex than expected. This required software modifications and additional employee training to operate the new system effectively.

• resistance from staff in the initial stages of implementation. Some employees were unprepared to meet the new requirements and processes, which necessitated further training and motivational measures.

• data quality issues during the pilot testing phase. Certain data were entered incorrectly into the system, which complicated the analysis. This required a revision of the data entry procedures and the introduction of a double-checking system in the initial stages.

The implementation of the operational quality control system at KAMOTO SRL made it possible to develop a complex algorithm that takes into account both product quality and customer service quality (Figure 4) at all stages of the sales process.

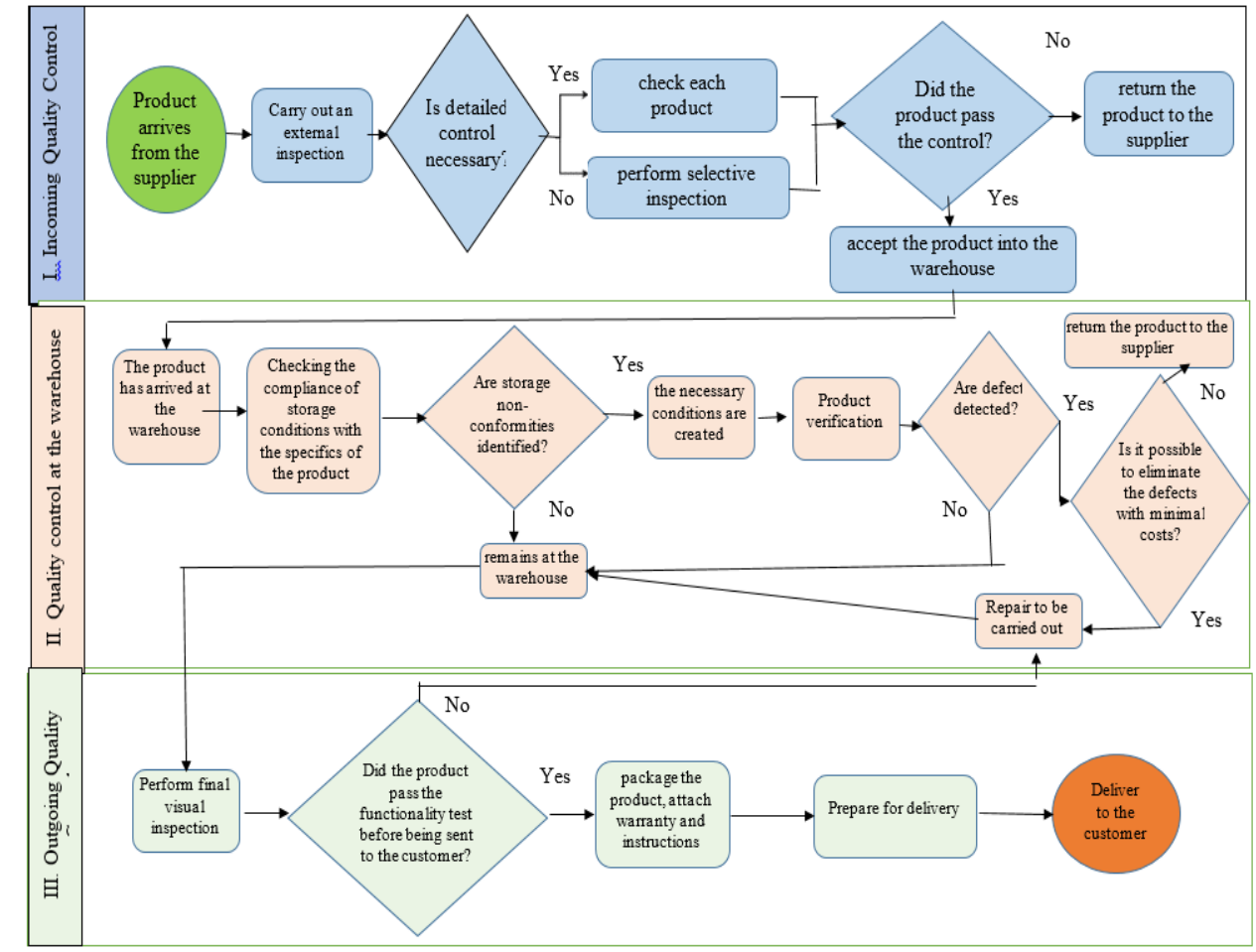

Figure 4. Quality assurance and control algorithm in KAMOTO SRL
Source: Emelian, 2025.

In this way, the operational quality control system implemented at KAMOTO SRL is carried out at three stages: upon receipt of products from suppliers (incoming quality control), during storage in the warehouse, and as a final check before the products are delivered to the customer.

Incoming quality control involves the verification of accompanying documents, as well as the visual and physical inspection of goods by evaluating the condition of packaging and examining products for visible defects, damage, or signs of improper handling. To assess product quality, a sample from the lot is tested (depending on the product type), and conclusions are drawn regarding the quality of the entire lot. Following the inspection, a reception report is prepared. In cases of non-conformity, discrepancies are recorded and procedures for return or complaint to the supplier are initiated. Compliant products are admitted into the warehouse.

In-process quality control (at the warehouse). After incoming quality control has been completed, the focus in the warehouse shifts to ensuring optimal storage conditions for agricultural machinery, equipment, and supplies, so that their integrity and functionality are maintained until delivery to the customer. The primary objective of warehouse storage is to prevent physical, mechanical, chemical, or electronic damage to the products by ensuring an optimal environment and proper handling. To this end, the warehouse is equipped with adequate ventilation to prevent condensation, mold formation, or rust, as well as with temperature and humidity control systems (particularly important for electrical equipment or products containing sensitive materials). In addition, appropriate handling equipment (forklifts, straps) is used, products are placed in stable positions without risk of overturning or mechanical damage, and sensitive equipment is not stacked with other stock.

The final inspection of the goods, *upon leaving the warehouse*, is the last verification stage before the products are delivered to the beneficiary. The purpose of this stage is to ensure product conformity with the customer's order, to confirm the integrity and functionality of the equipment, and to guarantee that the product is properly prepared for transport and delivery. At this stage, checks are carried out to confirm that the customer's order has been correctly assembled, that the delivery note and the product itself are present, that all ordered components and accessories are included, and that the warranty certificate and user manual are provided. A final visual inspection is also performed, which includes verifying the overall appearance of the product (absence of scratches, dents, wear, or dirt), as well as checking the presence of labels, seals, and technical markings, and confirming that the equipment is clean and presentable. Where applicable, a functional check is performed, which involves conducting a start-up test (for motorized equipment), verifying basic controls and functions (hydraulics, lights, brakes, etc.), and confirming the proper securing or fastening of movable components for transport.

Another component of this process concerns the verification of delivery completeness, for which an internal dispatch checklist is used for each product type. It is essential to ensure that the product is properly packaged and prepared for transport.

The implementation of the aforementioned algorithm at KAMOTO SRL demonstrated the effectiveness of the operational quality control system. The results obtained confirm that such a system not only optimizes current activities but also strengthens internal processes of monitoring and continuous improvement. Ensuring the continuity of the implemented processes, as well as their ongoing refinement, is essential in order to meet market demands and evolving quality standards.

An important aspect is the integration of quality management with digital innovation initiatives. In many organizations, these two areas are treated as separate functions, which generates difficulties in communication and in the establishment of common objectives (Rönnbäck et al., 2012). However, both quality management and digital innovation share a convergent mission: improving products and services for customers and enhancing organizational efficiency.

Previous research has shown that poor digital innovation performance is a serious inhibitor of business performance, whereas high efficiency and effectiveness in digital innovation are associated with superior organizational performance through the leveraging of new technologies and the rapid adaptation to changes in the competitive environment (Carlson et al., 1992).

In this context, for KAMOTO SRL, an integrated strategy that combines quality excellence with digital innovation constitutes a critical factor for sustainable development and long-term competitive advantage.

Conclusions:

In an ever-changing market, the continuous adaptation of businesses increases the importance of quality control. In the current competitive environment, customers have high expectations for product and service quality, so meeting these expectations is essential for maintaining loyalty and trust. In this regard, the implementation of a well-founded quality control system is not merely a strategic option but an indispensable condition for the long-term success and sustainability of businesses.

The adoption of new technologies is inevitable because they can streamline processes. Tools such as artificial intelligence, machine learning, and data analytics are already being used for quality control. These technologies enable faster data analysis, the early detection of defects or issues, the identification of trends that may impact product or service quality, and more effective decision-making. At the same time, the most recent technological innovations and services have the potential to make quality control more agile, reliable, compliant, and efficient.

The operational quality control system not only ensures that a company's products meet or improve quality standards, but also influences the attitudes of its employees and creates a sense of

responsibility, involves testing units to determine whether they meet the specifications for the final product.

The operational quality control system (OQCS) used within a company depends on the product or industry, and multiple techniques exist for measuring quality, creating reliable safeguards to ensure that defective or damaged products do not reach customers. The present study has highlighted quality measurement indicators relevant for enterprises in the commercial sector.

The study has demonstrated that, in essence, the operational quality control system (OQCS) is about consistency. It is the process of testing products and services to ensure that they meet established quality standards before reaching the customer.

References:

1. Abbas, J. (2020). *Impact of total quality management on corporate green performance through the mediating role of corporate social responsibility*. Journal of Cleaner Production, 242, https://doi.org/10.1016/j.jclepro.2019.118458 (accessed 24.08.2025)
2. Billiet, B. (2025). *Implementation & Best Practices. How Quality Control Is Used in Business Today + 10 Strategies to Make it Work*, available: https://usewhale.io/blog/how-to-implement-quality-control-during-business-growth/, (accessed 23.07.2025)
3. Carlson, W.; McNurlin, B. (1992). "Basic principles for measuring IT value", I/SAnalyzer, Vol. 30 No. 10, pp. 1–16.
4. Emelian, V.(2025). *Инновационные изменения бизнес-моделей в условиях меняющегося рынка*. [Innovative changes of business models in the context of a changing market] Teză de doctor în științe economice. available: https://irek.ase.md:443/xmlui/handle/123456789/4339
5. Jamil, U., Tahir, M.A. (2024). *The impact of quality control practices on business reputation and market share: a comprehensive analysis*. International Journal of Economics, Commerce and Management United Kingdom ISSN 2348 0386 Vol. 12, Issue 10, available: https://ijecm.co.uk/wp-content/uploads/2024/10/121014.pdf (accessed 24.08. 2025)
6. Mareček- Kolibiský, M., Kučerová, M.(2021). *Application of quality management in business practice in the context of industry 4.0*. Conference: Metal, Brno, Czech Republic, available: https://www.researchgate.net/publication/356484732_Application_of_quality_management_in_business_practice_in_the_context_of_industry_4.0 (accessed 18.08. 2025]
7. Rönnbäck, A., Eriksson, H. (2012). *A case study on quality management and digital innovation: Relationship and learning aspects*. International Journal of Quality and Service Sciences, 4(4), DOI: 10.1108/17566691211288386
8. Zacharias, M. V. V. (2022). *The Importance of Quality Control for The Success of A Company.* Asian Journal of Logistics Management. Vol. 1, No. 2, November 2022, pg. 99-106. available: https://www.researchgate.net/publication/370919304_The_Importance_of_Quality_Control_for_The_Success_of_A_Company.(accessed 13.07.2025)
9. Хайду, Н. (2024). *Отпустить или держать: как организовать контроль качества продаж*. [Let go or hold on: how to organize sales quality control] Online. Битрикс24. available: https://www.bitrix24.ru/journal/kontrol-kachestva-prodazh/ (accessed 01.06.2025)